UNIVERSITY OF
ILLINOIS LIBRARY
AT URBANA-CHAMPAIGN
STACKS

UNIVERSITY LIBRARY
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

The person charging this material is responsible for its renewal or return to the library on or before the due date. The minimum fee for a lost item is **$125.00, $300.00** for bound journals.

Theft, mutilation, and underlining of books are reasons for disciplinary action and may result in dismissal from the University. *Please note: self-stick notes may result in torn pages and lift some inks.*

Renew via the Telephone Center at 217-333-8400, 846-262-1510 (toll-free) or circlib@uiuc.edu.
Renew online by choosing the **My Account** option at:
http://www.library.uiuc.edu/catalog/

MAY 08 PAID

Digitized by the Internet Archive
in 2023 with funding from
University of Illinois Urbana-Champaign

https://archive.org/details/buildersjournal5219unse_0

UNIVERSITY OF ILLINOIS LIB
AUG 3
205

THE ARCHITECTS' JOURNAL & Architectural Engineer

Sixpence Weekly

27-29 Tothill Street, Westminster, S.W.1.

Vol. LII Registered as a Newspaper No. 1331

Contractors to H.M. Stationery Office, The Ministry of Health, The Ministry of Transport, &c., &c.

Special Notice.

Immediate delivery of Plans, &c., for Housing Schemes.

CHARLES & READ, LTD., Architects' and Engineers' Printers, Photo Printers.

Printers, Lithographers, Process Engravers.

PHOTO PRINTS DRAWINGS Best Work Only.

Photo-Lithography. True to Scale Process. Blue Prints, &c., &c. Tracings Copied or Reduced, &c.

TYPEWRITING LITHOGRAPHY

Bills of Quantities, Specifications, &c., &c. Reproductions by every process.

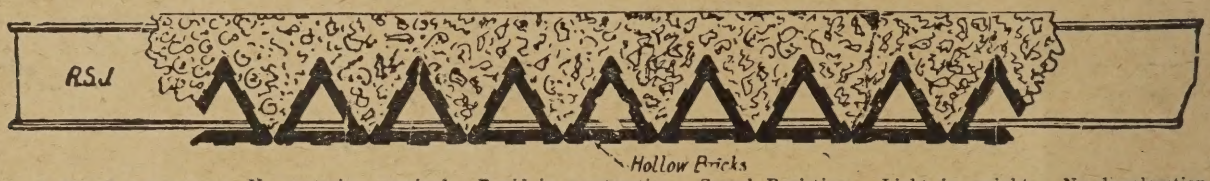
Work received by first post despatched same day if necessary.

Lonsdale Chambers, 27, Chancery Lane, W.C.2, and 3, Great Winchester Street, London, E.C.2.

Telephones: Holborn 6387, Holborn 153, London Wall 6591.

HOMAN'S Fire-Resisting Floors

Have been executed in over 3 000 Buildings, and are the most efficient and economical.



Advantages of this Construction:—No centering required. Rapid in construction. Sound Resisting. Light in weight. No discoloration of ceilings No Hacking of ceilings, the grooved bricks giving an excellent key for plaster. Moderate in price. Dries out quickly. Can be fixed close to and over existing floors

Constructional Steelwork of all kinds, Cast Iron Columns, Concrete Staircases, Granitic Work, Asphalte on Roofs, etc.

HOMAN & RODGERS, Ltd., Engineers,

Offices:—17, GRACECHURCH STREET, E.C. **Works:—WARE, HERTS**

Telegraphic Address:—"Homan Rodgers, London." **Telephone No. 106 Avenue.**

CONTRACTORS TO THE ADMIRALTY and MINISTRY OF MUNITIONS OF WAR.

SIMPLEX CONCRETE PILES, LTD.

FOUNDATION CONTRACTORS.

If you are contemplating the erection of Buildings of any description such as Munition Factories, Wharves, Grain Silos, Engine and Boiler Sheds, etc., and require **PERMANENT FOUNDATIONS**, send us particulars of your requirements and take advantage of our many years' **PRACTICAL EXPERIENCE. WE CAN SAVE YOU TIME AND MONEY.**

Our method of installing and driving **SIMPLEX CONCRETE PILES** at one operation **OBVIATES WEEKS OF DELAY IN COMMENCING and COMPLETING WORK.**

SKILLED WORKMEN & UP-TO-DATE PLANT. Schemes & Estimates submitted free.

Write for Illustrated Booklet:

SIMPLEX CONCRETE PILES, LTD., 104, VICTORIA STREET, WESTMINSTER, S.W.1

Telegrams: "SIMPILESCO, LONDON." **Scottish Office: 10, Cook Street, Glasgow.** Telephone VICTORIA 541.

"SHELL BRAND" FLOOR POLISH

Messrs. HAMILTON have made a special study of the Preparation and Treatment of Floors, and will be pleased to confer with Architects and others with regard to such work.

Hundreds of the leading Institutions and Schools throughout the Kingdom have had their Floors treated by the "SHELL" method.

ARCHD. H. HAMILTON & CO., Possilpark, Glasgow.

Telegrams: "SATISFY."

720.5
ARB
V.52

Bell's Poilite—the ideal material for the construction of Bungalows, Cottages, etc., is a scientific combination of Asbestos fibre & best London Portland Cement

Bell's Poilite

(asbestos—cement)

It is fire-resisting, light in weight, non - conducting, weather-proof, rot and vermin proof.

BELL'S POILITE BUILDING SHEETS.

For both external and internal Walls, Partitions and Ceilings. For internal linings Poilite sheets are unsurpassed, being economical in first cost (saving at least 30 % as compared with lath and plaster linings), and capable of effective decorative treatment. Panelled out with wood mouldings, they are attractive in appearance in their natural grey colour, and may be either papered or distempered if a suitable priming is used. Standard Sizes: 8ft. by 4ft., 6ft. by 4ft., 4ft. by 4ft., $\frac{3}{16}$in. thick and upwards.

BELL'S POILITE STANDARD DIAGONAL TILES.

A Poilite roof is extremely strong, durable and weather-proof, and yet weighs 50% less than a roof of Welsh slates. A proportionately lighter under-structure is also rendered possible by the use of Poilite Tiles, thus promoting economy in Building Construction. Size: $15\frac{3}{4}$in. by $15\frac{3}{4}$in. Tiles are specially chamfered and punched with nail and rivet holes for laying to laps of $2\frac{3}{4}$in. to 4in.

Poilite

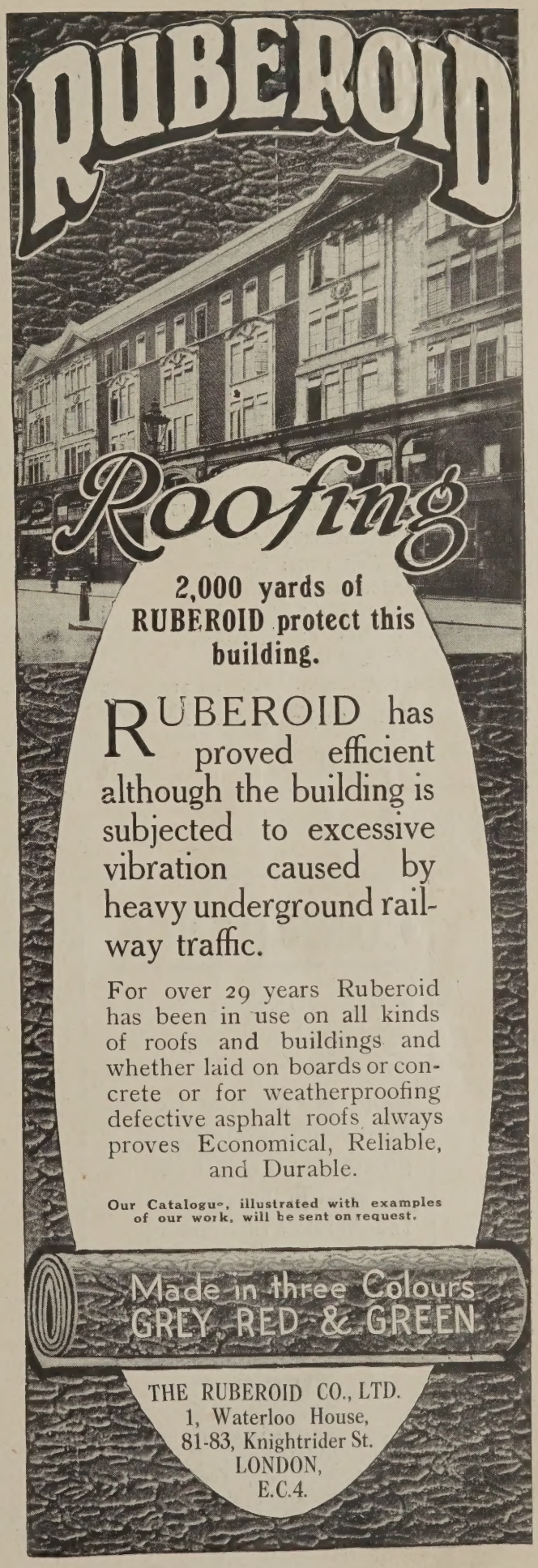
CATALOGUE GIVING DESIGNS OF POILITE BUNGALOWS, ETC., ON APPLICATION.

Bell's United Asbestos Co., Limited.

Pioneers of the World's Asbestos Industry.

Southwark Street, London, S.E.1.

B9.64



504345

CONTENTS.

Edited by PROFESSOR A. E. RICHARDSON, F.R.I.B.A.

The Education of the Architect. H. Barnes... 3

Notes and Comments: The Unification Committee; R.I.B.A. Notes; £250,000 for Abbey Repairs; Architectural Entente; Art and Nonconformity; Peterborough Cathedral... 4

Architectural Causerie 5

The Week's News 6

The Condition of Westminster Abbey 7

Daniel Asher Alexander 11

Appointment of Architect for Welwyn Garden City 12

R.I.B.A., Proceedings of the Council 15

The R.I.B.A. Garden Party 15

Correspondence: Unhealthy Areas; The New Building Code; Luxury Building; Architectural Education and Schools of Art; Schoolmasters and General Practice; Appointments Abroad; The Lincoln Statue in Parliament Square 16, 21

Unification and Registration 21

A.A. Changes for Session 1920-21 ... 21

Book Notices: Property Law and Investment; The Working Woman's House 22

Weekly Housing Report 22

Cost of Sites for Housing Schemes... 25

Clifton Park Race Stand 25

Enquiries Answered 27

Watson's "Fridge" Larder 27

Legal 27

Competitions Open 27

ILLUSTRATIONS:

James Gibbs 1

View Showing Decay of Walls and Vaulting, Westminster Abbey 7

Decay at Base of Flying Buttress, Henry VII. Chapel, Westminster 8

Westminster Abbey: View in South Cloister, Showing Decay of Walls and Vaulting... ... 9

Plans of the Grade Schoolhouse, North Easton, Mass., U.S.A. Charles M. Baker and Stanley B. Parker, Architects 12

Modern American Architecture. 5.—Grade Schoolhouse, North Easton, Mass. Charles M. Baker and Stanley B. Parker, Architects 13

R.I.B.A. Reception 15

Furniture. 4.—Tables, Bookcase, and Chairs for the New London Offices of Messrs. Furness Withy and Co., Ltd. Designed by L. S. Sullivan, A.R.I.B.A. 18

Boys' Home, Clapham, London, S.W. Ground Floor Plan. Lionel U. Grace, F.R.I.B.A., Architect 22

Current Architecture. 28.—Chapel in the Boys' Home, Clapham, London, S.W. Lionel U. Grace, F.R.I.B.A., Architect 23

Clifton Park Race Stand, Blackpool 25

Clifton Park Race Stand, Blackpool. Arthur Hindle, A.M.Inst.C.E., Engineer ... 26

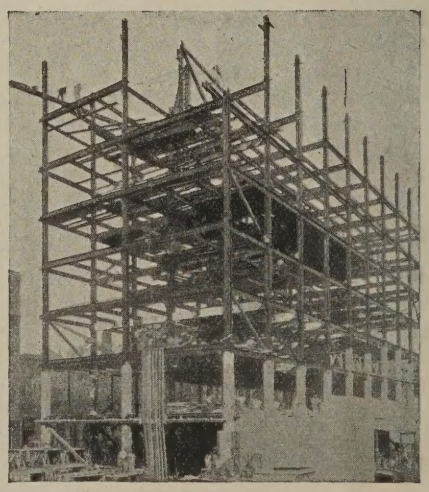
Watson's "Fridge" Larder ... 27

DAWNAY DEFINITIONS—3.

CONFIDENCE.

CONFIDENCE is the basis of all successful enterprise. To be able to count on material being right, and the service being progressive is half the battle. As we can guarantee this, the moral of this announcement is obvious. Send us your enquiries for constructional material.

Stocks of
British Standard Sections in Joists, Channels, Angles, Tees, Flats, etc.



ARCHIBALD D. DAWNAY
AND SONS, Limited.

Telephones: Battersea, 1094. (3 lines).

Steelworks Road, Battersea, S.W.11

Telegrams: "Dawnay, Battsquare, London."

Telephone: Cardiff, 2557.

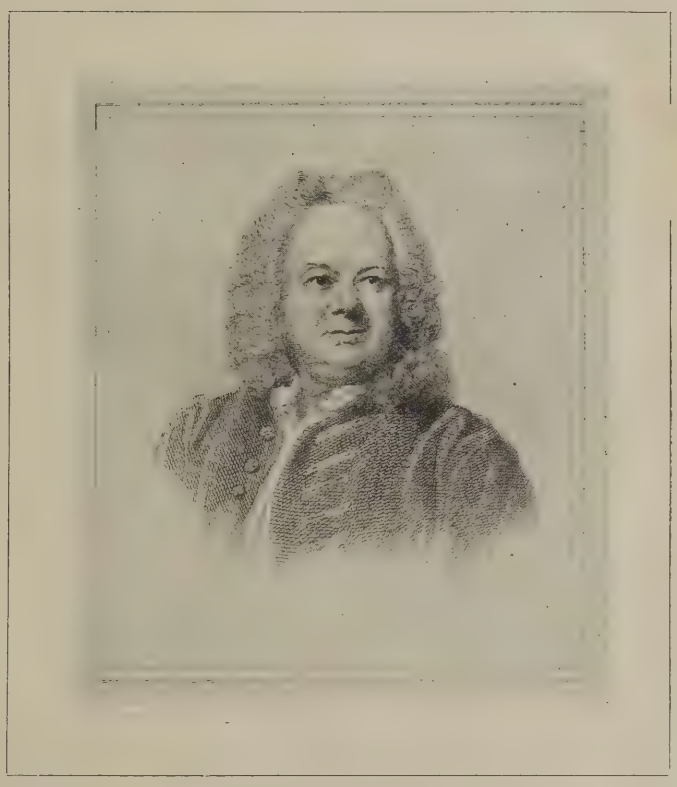
And at East Moors, Cardiff.

Telegrams: "Dawnay, Cardiff."

ednesday, July 7, 1920 Volume LII. No. 1331

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



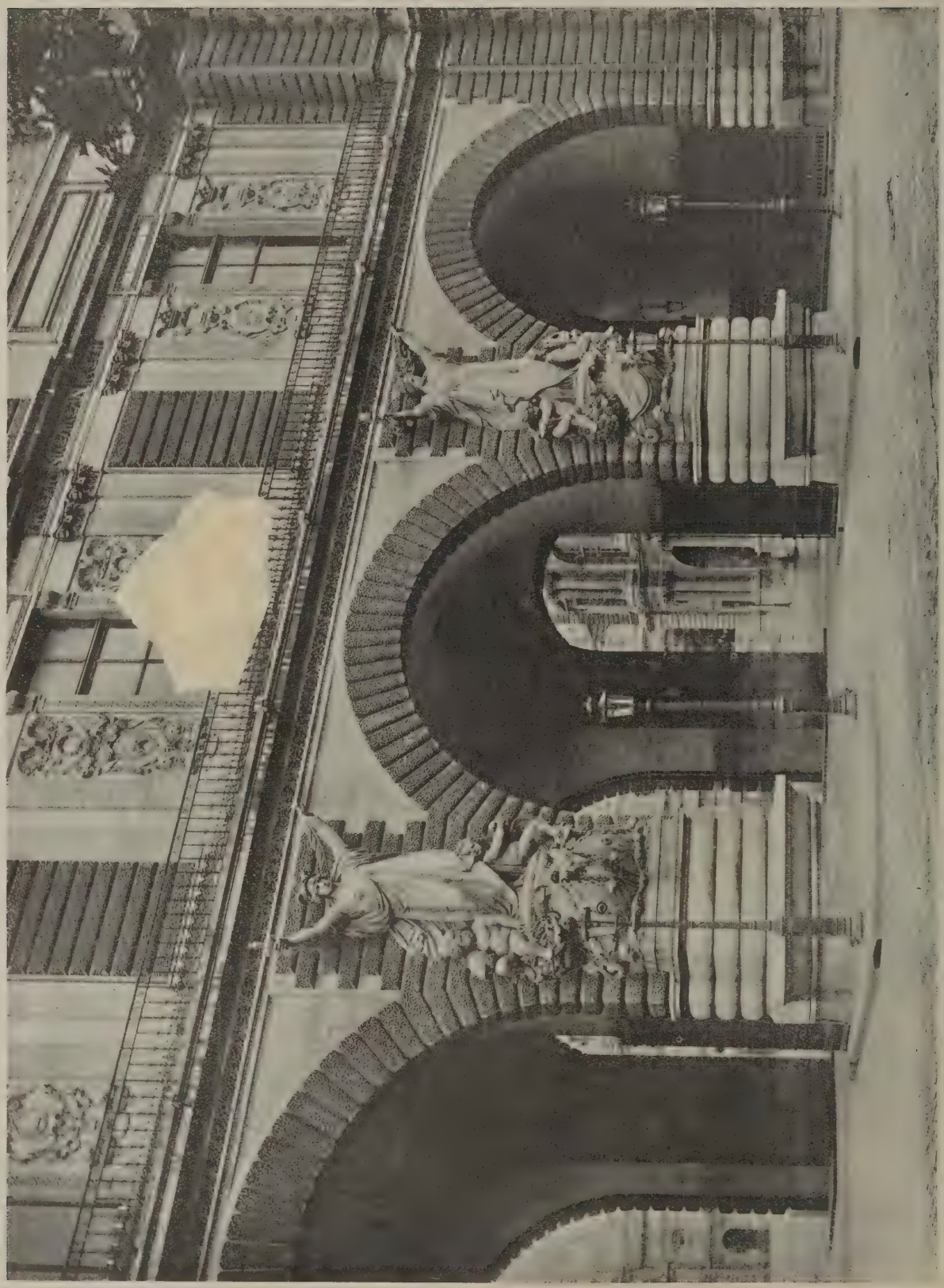
JAMES GIBBS

James Gibbs was born in 1682 and died in 1754. By birth he was an Aberdonian. He went to Holland in early youth, where he attracted the notice of the Earl of Mar, who sent him to Italy, where he studied under Garroli for ten years. He then came to London, where the same patron introduced him to the Commissioners entrusted with the authority to build fifty new churches. His first building, however, was King's College, Cambridge. His first London church was St. Martin-in-the-Fields, which is his best monument, with the doubtful exception of the Radcliffe Library at Oxford.

27-29 Tothill Street, Westminster, S.W.1.

French Façades. 6.—Detail of South Entrance to the Louvre

H.-M. Lefuel, Architect



This truly magnificent triple entrance, built during the years 1863-1868, faces the Pont des Saints-Pères. Note the free use of vermiculation, particularly with regard to the arches, which, despite their width and a certain shallowness of effect, have an appearance of great strength. The colossal statues, symbolising the Mercantile Marine and the Navy, are by Jouffroy. Lefuel was born at Versailles in 1810, and died in 1881.

7200
ARTS

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, July 7, 1920 Volume LII. No. 1331

The Education of the Architect

NO more important question can arise in the minds of those who are interested in architecture. The factors in that art are many. There is environment, with its climatic conditions. There are the materials available. There is the stage civilisation has reached. But above all these things there is the mind that manipulates and co-ordinates the resources that are at hand. Of what avail is the most perfect country, the richest store of marble or of wood, if these are lavished upon a race which has produced no craftsmen, among whom the architect or head-workman has not arisen. This is only less true in those places and in those periods where he is ill-equipped with the knowledge required in the practice of his art. Education is therefore the prime necessity. Materials may be meagre, the situation may be disappointing, but the master-mind will produce the master-piece, in spite of, and perhaps because of, the limitations imposed.

In reflecting on education, its different theories and different practice, one is reminded of the story of the three men of French, German, and British origin respectively who were set the task of writing an essay upon the camel. The story is that the Englishman equipped himself for a tropical climate, and proceeded to those parts of the world where the camel may be found. The Frenchman, dressed elegantly, proceeded with leisure and grace to the Jardin des Plantes. The German retired to his study and evolved a camel out of his inner consciousness. As varied are the methods for the training of the architect. There is the pupilage system, which is passing away, nowhere more scathingly satirised than in the pages of "Martin Chuzzlewit." Who does not remember the home of Mr. Pecksniff, architect, artist, and man, with the design for a cow-house in a nobleman's park, the views of Salisbury from the north-east, Salisbury from the south-west, Salisbury from every point of view? Much has been said against pupilage; something could be said for it. It is true, and appallingly true, that except in the restricted number of offices of men with practical knowledge and scholarly attainments, the training of the architect was formerly more practical than ideal. From the time he started to mix Indian ink on a palette to the day when his articles were presented to him there was little logical continuity in his training upon such jobs as reached the office where he was. A casual word from his master, a slight direction in such studies as he imposed upon himself, was all he received other than what came to him in the various ways his services were utilised. Some wandering for a year or two, an unexpected commission, and he was set upon the course, soon to be joined by others who, under his guidance, strive to reach the port where he himself was never found. Despite all this, it may be said, there was attained a real acquaintance with materials, a grasp of business methods, an understanding of accounts that may sometimes be missed at school or college. For good or evil, that day is past, and the architects of the future will not be trained in the art as their predecessors were in the past. Education changes with the advancing years.

For many years the advance of architectural knowledge in this country depended upon the stimulus given to it by the series of Institute examinations. The coveted title which membership of that body gives could only be obtained by passing the prescribed tests. This incentive spurred many in all parts of the country to acquaint themselves at least with what was needed to be known of history and design before the threshold of Conduit Street could be crossed. Examining bodies tend to give place to those where instruction and examination go hand-in-hand. Those who are observing the evolution of architecture can see there this tendency no less well marked than elsewhere. There is the Architectural Association, a body closely allied to the Institute, deriving some, if not adequate, support from the connection, and imbued with intense enthusiasm for its great work. It is not sufficiently known to the profession with what zeal the Association is applying itself to the question of education. The excellent buildings, admirable in construction and equipment, which have arisen in Bedford Square have excited the admiration of all their visitors, including Ministers of the Crown, and speak of the enterprise which is being addressed to this matter. In older days the arts had their Mæcenas, Florence its Medici; one could wish that some millionaire could be drawn to Bedford Square and leave it a poorer man than when he arrived. Here, there can be no doubt, architectural education may be obtained, if not fully obtained, which perfection is perhaps possible in no school; for education can be perfected only by travel and ended only by death. Yet, with these reservations, inside the four walls of the Architectural School may be found as complete a curriculum as the country can afford. It has the advantage of direct connection with the Profession. Its teachers are practising architects, and its Council architects themselves. It is based on voluntary effort, though, like all voluntary institutions in these days of changing values, financial pressure may lead it to seek supplies from State resources. It would, however, be a narrow view of the field that saw no further than the Royal Institute of British Architects and the Architectural Association. Architecture is gradually taking its place in the Universities. Before long, few, if any, of them will be without a Chair of Architecture, and a degree in architecture will be as normal as a degree in any other subject.

The relation between the instruction of the Universities and the examination of the Institute is a problem that is being worked out by the Board of Architectural Education, and its solution will require the application of statesmanship. All the great professions have their own centres. Law, medicine, the Church, with their common association of university life, have their separate existences and their distinct rallying places. Lawyers gather round the Temple, priests at Convocation, medicine round its special faculties, and it is clear that architecture must not be disintegrated by its association with university life. The great architectural societies must remain enhanced and advantaged by the progress of their

individual members. With this reservation the spread of architecture amongst the Universities is a matter for nothing but congratulation. The status of the profession will be raised, its position made more secure by the fact that those who practise it have a common training and live a common life with the great professions. The university, the school, the institute, are a trinity—not three, but one, and to apprehend that is to apprehend what the education of the architect may be.

H. BARNES.

The Unification Committee

Concerning the omnibus committee that has been appointed by the R.I.B.A. to prepare a scheme for consolidating the Profession there is, for the moment, nothing to be said except that as a collection of names it appears to be as representative as it could possibly be made. One's chief fear about it is that it is more comprehensive in appearance than it is likely to be in effect, the difficulty of getting together with sufficient frequency so large and so widely scattered a committee being obviously so very great that some means of minimising it is absolutely essential at the outset. We need hardly say that we wish the committee all possible success in its arduous task. The full list of members is set out on a later page in this issue. It is expected that the first meeting of the committee will be held some time next month.

R.I.B.A. Notes

Exemption from the Final is a serious step, but the Council are certainly justified in taking it with respect to such schools as have set up a five years' diploma or degree course; and the policy is liberal, as becomes a liberal profession. It is regrettable to see that the Institute has been compelled to take action against several members who have entered vetoed competitions. It is not the Institute's action, but the necessity for it, that is deplorable. Members who fail in loyalty must be brought to book, or one of the most essential functions of the association would be lost. Any failure to enforce this discipline, or, indeed, any other laxness with respect to breaches of rule or of etiquette, would tend to sap the strength and influence of the Institute, and, in fact, defeat the purpose of organisation. A third Institute announcement that is as welcome as the two others is that a conference is to be held between representatives of the Institute, of the Surveyors' Institution, and of the National Federation of Building Trades Employers, respectively, to discuss the R.I.B.A. new form of contract and the Federation's building code. Better late than never!

£250,000 for Abbey Repairs

Bishop Ryle, Dean of Westminster, has won all hearts by the simplicity and frankness of his appeal for funds for preserving the Abbey. With the King, the Queen, and the Ecclesiastical Commissioners making instant and generous response, it is certain that the dear old Abbey will not be allowed to fall to ruin for lack of funds. What is, all things considered, the most interesting, if not physically the noblest, Gothic building in the world could not be allowed to perish "for the sake of a few rascal counters," as Beaconsfield would have phrased it. It is the spiritual headquarters of the English-speaking race, and our Colonial brethren would have felt hurt if he had not extended the appeal to them. As he is certain to get all the money he wants, a word of advice as to its outlay will not be premature. It is this: Let him not be intimidated by wild archæologists, who somehow manage to convey the impression that an Abbey is most admirable when it is in ruins. Professor W. R. Lethaby's very clear statement of the facts concerning the structural condition of the Abbey (reported on a later page of this issue) will be studied with peculiar interest.

Peterborough Cathedral

That Peterborough is senior to Salisbury the public have been reminded or informed by the celebrations that have been recently held, first of the one and then of the other. Following hard on the commemoration of the seven-hundredth anniversary of Salisbury comes the observance of the eight-hundredth year of existence of the no less glorious cathedral of Peterborough. Bishop Brent, of Western New York, who preached the anniversary sermon, was very happy in his saying that the Benedictines who built the Cathedral "were master craftsmen and moral and spiritual leaders surpassed by none since and equalled by few"; and he added rather finely that "no petty ambition could produce such refinement of detail, such patience of execution, as marked Peterborough Cathedral." As Mr. H. Heathcote Statham has remarked, the unknown designer of "that sublime west portico," with its three vast arches and the decorative gables over them, was an architectural genius of the first order, and the portico, "one of the finest things ever done in architecture, was among the first-fruits of the refined and almost classic 'Early English' style." The choir was built in 1118 by Abbot John de Sais. The cathedral forms in itself a complete record of architectural development from Norman to Perpendicular. It was completed early in the thirteenth century.

Architectural Entente

An important movement for bringing French and English architects into closer association has made a promising start. There is in London an institution called the Office National des Universités et Ecoles, and its committee has kindly and cordially consented to facilitate the object which the R.I.B.A. have long had in mind of establishing a regular and systematic interchange of courtesies between the architects of the two countries. It is intended, we understand, that the basis of this new *entente* shall be educational. It is proposed that there shall be an exchange of students and of masters, international exhibitions of drawings, and perhaps competitions between British and French ateliers. We believe that this excellent movement owes much to the President of the R.I.B.A., whose French sympathies are known and read of all men, and to M. Fernand Billerey, whose English sympathies are no less evident. We wish all possible success to a movement that should be equally beneficial to both countries, whether by its influence on art or on fraternity.

Art and Nonconformity

Plain-speaking is often wholesomely tonic. Miss Maude Royden, the distinguished lady preacher, has administered a fairly stiff dose of it to a Swanwick Conference of Social Service Unions. She is reported as declaring that "Nonconformity had produced no art, and that its places of worship were models of ugliness." These are probably not the exact phrases she used, or, if they are, it is unfair to construe them apart from their context. But, whether or not the paragraph misrepresents her views, we fear that there is only too much truth in the charge it brings. In breaking away from old traditions, Nonconformity unfortunately seems to have included those that pertain to art, with consequences that the words attributed to Miss Royden do not greatly exaggerate. There is no real antagonism between Puritanism and art, or at least there is none between true religion and true architecture, and Nonconformists would greatly strengthen their position if they advanced stronger evidence of a more general recognition of the fact that there is no necessary connection between Nonconformity and ugly buildings. It is not at all true to-day, whatever may have been the case in the days of Cromwell, that Nonconformists are the enemies of art, and they do themselves and religion a great wrong in allowing so injurious an impression to prevail.

Architectural Causerie: "Signing" Buildings

IN our travels we have all paid respect to the wisdom of the old builders, who lost no opportunity of marking their works with initials and dates. Seldom it is that we encounter the full signature of an architect. Then, as now, the chief builders evinced modesty. They were content apparently to be remembered by hearsay and peculiar traits of detail rather than to risk censure by incised advertisement.

* * *

Engineers, painters, composers of music, authors, and playwrights have no such modesty. You may even see my war name at the end of these columns. The signing of a building is almost obligatory in other countries, whereas, strangely enough, English architects are still loth to letter the creations of their brain, and this in spite of official sanction from Conduit Street. In mediæval times the chief builder, working under ecclesiastical direction, did not dare to sign the stones he raised. Consequently, we can only guess at the extent of the influence of William Paris, of William, the young Englishman, and a host of others. Even Alan de Walsingham omitted his signature at Ely, but those who realised his merit recorded his memory. Wykeham at Winchester had no need to sign his work, for the cathedral shows the personality of the architect as no other building does.

* * *

In the Tudor period it became the custom to date buildings and to add initials—whether in any given case they are those of the owner or those of the builder it is impossible in many instances to verify. John Thorpe could sign his drawings and make a rebus of a novel plan. Inigo Jones on occasion could sign and date a drawing, but even he had not the temerity to initial his actual works. After the Restoration, men once again took heart and boldly displayed their initials; hence it is that we who revel in the old buildings of London can distinguish between houses built when "Charles the First was a martyr made" and those goodly edifices of brick and stone that rose under the regime of his son.

* * *

In London, particularly, dated buildings are of especial interest. You may look for dates cast in lead, for small stone tablets bearing legends such as 1667, 1684, or 1700, or search for cartouches and conceits with fuller information, and find flowery inscriptions such as those in the threatened City churches and on the pedestal of the Monument. Vainly, however, do we look around for Wren's attestation; or, for that matter, vainly do we seek the sign-manual of any of his followers and successors. Wren in sorrow to the grave descends; Ripley, Kent, Gibbs, Vardy, Brettingham, Flitcroft, and a host of others enrich the realm of George the First, signing a building or two as a diversion, until London in 1748 received a shock. This was on the occasion of the removal of the scaffolding to the Ironmongers' Hall. From the Lord Mayor to the 'prentice of Chepe, cits of every degree quizzed the inscription cut in large Caslon lettering on the face of the Portland stone above the plat band of the new building, now, alas, pickaxed,

THOMAS HOLDEN,
ARCHITECT, 1748.

* * *

From the middle of the eighteenth century onwards a few architects signed their buildings, but the majority did not esteem their works to be of sufficient importance for such marking. There was no need for Sir William Chambers to sign his work at Somerset House, for Dance to sign Newgate, or for Holland to beg permission of H.R.H. the Prince of Wales to carve H. H. in the pediment. Soane, Cockerell, Barry, Scott, Street, and others would never have sanctioned such a departure from decorum. On the other hand, John Rennie put his superscription to his works at the London Docks. Phillip Hardwick did not despise his work at St. Bartholomew's Hospital, Brunel took care to mark the Saltash Bridge in lettering taller than his stature, and Bazalgette has inscribed his name on the wall of the Albert Embankment under St. Thomas's Hospital.

* * *

A certain architect was invited to dine with the master of a famous college, who asked whether he had seen the new monument to Latimer. "Yes," replied the architect. "But," someone commented, "you said that you had never visited this college before." "Quite so; but, nevertheless, I designed the monument." Had the architect signed his work the question could not have arisen, and this anecdote would have been lost to us.

* * *

Those who have made it their business to verify records, as well as to ascertain the names of architects responsible for certain buildings, owe a lasting debt to the foresight of the men who dated and signed their buildings. In the eighteenth century it was rarely the custom for an architect to sign his drawings. Sir John Soane took the precaution to date some of the plans of town houses he was called upon to alter, and from 1830 onwards we encounter the names and addresses of architects on drawings and other documents connected with buildings still in existence. How much trouble would be saved the antiquary and the record agent if the buildings of London and other cities were both signed and dated. We should then walk the streets and become familiar with the life work of the men who have passed as well as with the shortcomings of those who build to-day. No living authority can state with exactitude the true extent of the work of the Brothers Adam. We know that the Adelphi commemorates the fame of the famed two, that Portland Place enhances their reputation, and that Fitzroy Square in part adds lustre to their name; notwithstanding, many other streets may or may not have been erected from their designs, and so we have been led into many mistakes.

* * *

Although in the past architects were wont to overlook the necessity of a signature, such was not the feeling of the bricklayer, who somehow managed to scratch his initials with the date on every fourth or fifth course of brickwork. When I examine the walls of my own house it is a pleasure to find the date 1775 cut with skill into the fair face of the work by some long-forgotten bricklayer, and when I see the name James Horn, 1794, I know that I am looking upon the signature of one related to the Hornes who were members of the Tylers' and Bricklayers' Company two years before Queen Anne came to the throne.

* * *

Last week, while motoring in Bedfordshire, it was impossible not to admire the villages on the Southill Estate, which Samuel Whitbread, the friend of Sheridan, Fox, and Holland, ruled so wisely. Here on circular stone panels above the doors of cottages and houses we see the initials S. W. with the date below, and such is the value of tradition that even to-day, when it has been found necessary to repair these humble dwellings, it has been deemed wise to add the legend, Restored 1909, 10, 11, 12, as the case demanded. Crests, cartouches, and dated rain-water heads are admirable in their way, but what you want to see and what the man in the street demands is the proud signature of the architect done in decent lettering.

AERO.

The Week's News

Change of Address

Messrs. Knapp-Fisher, A.R.I.B.A., L. Powell, B.A., and A. L. N. Russell, A.R.I.B.A., have moved from 33, Palace Street, to 133, Ebury Street, S.W.1.

New London Housing Official

At a meeting of the L.C.C., Mr. G. W. Humphreys was appointed Administrator of Housing Development Schemes at a salary of £2,000 a year. He already holds office under the L.C.C. as chief engineer.

Stead Memorial on the Embankment

The portrait bronze by Sir George Frampton, R.A., erected by British and American journalists in memory of Mr. William Thomas Stead on the Thames Embankment was unveiled on Monday.

Manufacturers' Great Building Scheme

Messrs. Guest, Keen, and Nettlefold, Ltd., are preparing a site for the erection of an electrical power station, a range of coke ovens, and other developments, at Dowlais Steel Works. Expenditure will approximate three-quarters of a million.

"Victory Park" for London

Mr. G. L. Moore, of Forest Hill, has announced his intention to provide a public park for ever free to the people of London at a cost of £150,000. It is to be named the "Victory Park," and is given as a thank-offering for the victory of the Allied cause. The site of the park has not yet been determined.

Titanic Disaster Monument

The Titanic Memorial at Belfast was unveiled by the Viceroy, Lord French. The memorial, which is by Sir Thomas Brock, R.A., K.C.B., stands about 22 ft. high, the pedestal being of grey granite, and the symbolic group—constituting about 12 ft. of the total height of the monument—being in white Carrara marble.

Askern Garden City

Dr. Addison last week formally opened the new garden city at Askern, near Doncaster, erected by the Askern Garden City Association, under the Government public utility scheme. The scheme provides for 312 houses, erected in groups of four, lighted by electricity. The cost of the first portion of the scheme, embracing fifty-six houses, and including land, works out at £550 per house, and the rent is 10s. 6d. per week, inclusive of rates. Baths are provided and gardens back and front. We hope to illustrate this scheme shortly.

Birmingham War Memorial

The Birmingham War Memorial Committee has decided to modify the original scheme and to erect a Hall of Memory at a cost of about £35,000, or about one-third of the outlay originally contemplated. The hall will be built in the near future at the corner of Broad Street and Easy Row, in an open space laid out as a garden. Later the proposed new City Hall will be erected in close proximity, a complete group of memorial buildings thus being formed.

Viscount Wolseley Memorial

A memorial to the late Field-Marshal Viscount Wolseley has been unveiled on the Horse Guards Parade. The memorial consists of a life-size equestrian statue in bronze, showing the distinguished soldier in field-marshal's uniform, wearing his many decorations and seated upon his favourite charger. The statue is the work of Sir Goscombe John, R.A., and is placed upon a pedestal of Portland stone, with a granite base designed by the chief architect of the Office of Works, Mr. R. J. Allison. It is situated on the north side of the central arches of the Horse Guards Parade, facing St. James's Park, and it is hoped to erect a similar memorial to Field-Marshal Earl Roberts on the corresponding side of the central arches.

A. and S.A.P.U. : New Branch

A general meeting of the Metropolitan Branch of the Architects' and Surveyors' Assistants' Professional Union was held at Caxton Hall, Westminster, on June 24, Capt. G. Ll. Evans, M.S.A., in the chair. The following were elected to constitute the new committee: Messrs. R. D. Bartlett, H. E. Baker, G. A. Bryan, T. Bilbow, R. E. Clarke, H. T. Howard, F. R. Jelly, C. S. Macrab, A. W. Mather, G. E. Peto, R. Pierce, H. W. Ruffle, A. D. Reid, A. W. Sheppard, G. B. Tubbs, E. F. Tomlins, and Messrs. C. H. Rattenbury and C. G. Wright were elected auditors.

Personalia

The architectural personalia of the past week are of more than usual interest. That Mr. Arthur Stratton has been appointed Reader in Architecture at University College, London; that Mr. Louis de Soissons has been appointed architect for the new town of Welwyn; and that Mr. Thomas E. Collcutt, Past President, R.I.B.A., has been transferred to the class of Retired Fellows. Mr. Stratton, Fellow of the Institute and of the Society of Antiquaries, has had much experience as lecturer and demonstrator in London and Liverpool, and is, of course, the Stratton of the "Garner and Stratton" whose book on Tudor Architecture is a recognised classic. He is also the author of many scholarly contributions to the "Architectural Review." Mr. de Soissons distinguished himself as a student at the R.A. Schools and at the Paris Beaux-Arts, and has been recently engaged on restoration work on the Somme and Meuse. Mr. T. E. Collcutt, the author of many designs of remarkably impressive character, is one of the first dozen living English architects.

Proposed City War Memorial

Sir Banister Fletcher, a member of the Court of Common Council and a former Sheriff, has prepared a scheme for improving the approach to the Guildhall as a War Memorial. In the years before the Great War a scheme was drawn up by Mr. Sydney Perks, the City Surveyor, and approved by the Common Council, for a very necessary reconstruction and rearrangement of some of the buildings on the south side of the Guildhall. This scheme, while certainly improving the planning and arrangement of the committee rooms and offices grouped around the ancient Hall, did not take into account the undignified entrance to the Guildhall Yard. The scheme aims at enhancing the aspect and the approach to the Courtyard and of the flanking buildings. The building on the right-hand side of the approach, until recently occupied by the Guildhall Tavern, would be removed, and its place taken by a new building duplicating the Church of St. Lawrence Jewry, which is on the left-hand side of the approach. A spacious Art Gallery would thus be made available, while the building would complete the artistic grouping at the Guildhall and make an imposing whole. The new Tower would be utilised as a Record Office.

(*Continued on page* 28.)

The Condition of Westminster Abbey

BISHOP RYLE, the Dean of Westminster Abbey, has issued an urgent appeal for £250,000 to execute necessary repairs to the edifice. £100,000 is required for immediate structural repairs, and the remaining £150,000 is desired to constitute a fund which shall place the future of the Abbey beyond all anxiety.

In the course of an interview which a representative of THE ARCHITECTS' JOURNAL had with Professor W. R. Lethaby, the surveyor of the fabric of the Abbey, the chief parts requiring immediate attention were pointed out.

The two great western towers, which Wren built, need extensive overhauling, owing to the rusting away of the iron cramps with which the stones were originally tied together. In one place the cramps have broken and the stones have been forced out. The tracery, too, is very much decayed.

The external stonework of Henry VII.'s chapel needs a good deal of repair, especially the clerestory. Many of the stones have lost as much as half an inch in thickness through the action of wind and rain, and the pinnacles are weathered into hardly recognisable shapes. A touch is sufficient to crumble the stone like sand.

A large portion of the parapet running round the roof must be restored. In a hasty survey, one would say there are one or two hundred stones, with carving and moulding, to be replaced here alone.

The repair of the flying buttresses is absolutely necessary. One of our illustrations shows serious decay at the very springing of one of these buttresses, extending for nearly two feet across.

The cloisters, and particularly the south cloister, where the wind and rain beat through from the west, are much decayed. The vaulting and shafts are eaten away and crumbled to such an extent that a fall is feared. The stonework here dates from the fifteenth century.

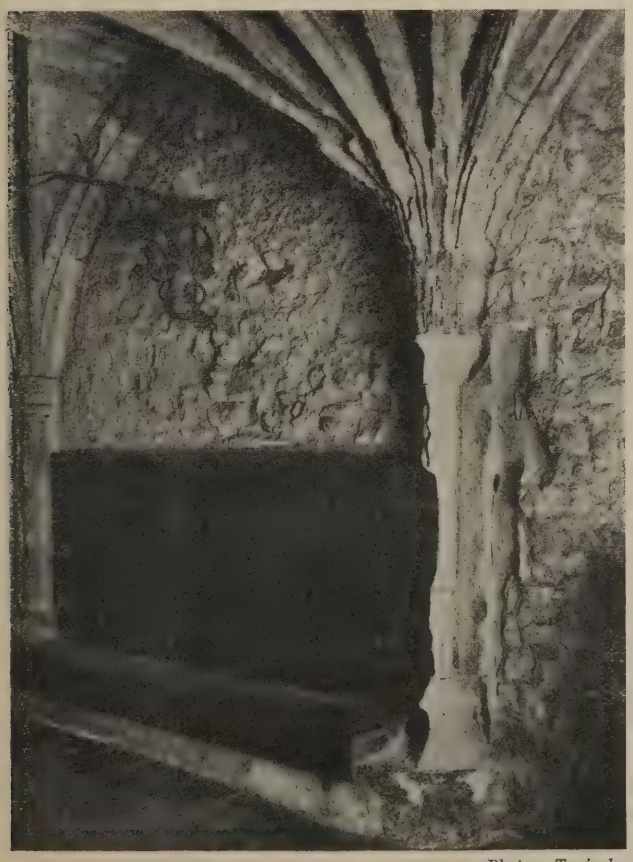


Photo: Topical.

VIEW SHOWING DECAY OF WALLS AND VAULTING.

It may be interesting to note that the exterior of the south transept was restored quite recently, the work being finished in 1918. In Wren's time the stonework had been cased over with thin ashlar. No bonding with the old work seemed to have been made, with the result that a few years ago the whole of this casing shelled off. Needless to say, the new facing has been properly bonded.

The JOURNAL'S representative also had a few minutes' talk with the Dean. He was unable to add very much to the full explanation in his letter (which was issued last week to the Press, and which we subjoin). He stated that the part of the Abbey where restoration must begin at once is the great western towers. There the trouble is not the decay of the stonework, for Wren built with Portland stone, but—as we have pointed out—the decay of the iron cramps. After the towers, the cloisters will receive attention, and, thirdly, the Henry VII. chapel.

"The Hand of the Restorer"

Criticism is invariably aroused by any restoration of an ancient building, and already the danger that "in the passion for preserving it, the hand of the restorer may rob it of some of its antiquity," has been pointed out. The Dean assured us that he was prepared for such criticism, and explained that the whole work and its details would be carried out by Professor Lethaby, "an unsurpassed authority on Gothic architecture," and, in any case, the necessity of preserving the Abbey was so clear that there would be no scope for opposition.

This is not the first time that the fabric of the Abbey has been pronounced to be in a state of positive danger. Two hundred years ago an enormous work of restoration was set on foot under the superintendence of Sir Christopher Wren. At the beginning of the nineteenth century the exterior was so badly decayed that in 1806 a memorial on the subject was addressed to the Lords of the Treasury. This petition was referred to a "Committee of Taste," and upon their recommendation an emergency grant of £2,000 was at once made. Subsequently, sums amounting to more than £42,000 were granted by Parliament. During the last thirty years £100,000 has been spent on the fabric.

The Response to the Appeal

Money has begun to flow in for the fund, which the King has headed with £1,000. The Queen has given £500, the Prince of Wales £300, and the Ecclesiastical Commissioners £10,000. Viscount and Viscountess Northcliffe have subscribed £5,000, besides his lordship having given the appeal the very powerful backing of the Northcliffe Press. (On Tuesday last week "The Times" issued an illustrated "Westminster Abbey" supplement.) The Dean of Westminster himself has given £250.

It is possible that the Companions of the Bath will make the restoration of the Henry VII. chapel their especial care.

At the moment, it is impossible to say how much has been contributed, so rapidly does the total rise, sums ranging from £1 to £10,000 being received. Mr. E. F. Knapp-Fisher, the Clerk to the Chapter, is said to be quite satisfied with the response. One or two experts do not think that the quarter of a million sterling asked for will be nearly sufficient to pay for the work of restoration at present prices. It is unfortunate that the appeal should have coincided with the necessity for funds for the repair of St. Paul's; but, as one writer says, the nation would be poor indeed if it could not provide the comparatively small sums necessary to secure the fabrics of both these great buildings.

History of the Abbey

Says a writer in "The Times": "There is scarce a field of thought or of action, scarce a department of science, or a branch of art, which is not represented, and gloriously represented, in these bounds. It is this largeness and universality which are unique in the Abbey. In other lands splendid sepulchres had been set apart as the last resting places of emperors and kings. But the glories and the deaths of princes, fortunate and tragic, who lie in 'this acre sown with royal seed' are but a thread—albeit a golden thread—running through the web of endless memories. Grand as is the history enrolled on the stately walls which Venice appropriated to her Doges and her warriors, it commemorates but a single side of her opulent life. Immortal as are the dead who sleep in Santa Croce, they are the sons of a small city State, whose fame rests on the achievement of a few generations and which sank into a long sleep of cultivated repose a lifetime after Columbus had crossed the Atlantic. Deeply as these great repositories of the great dead must move all educated men, the story they have to tell is short and confined to that embodied here, that is all embracing, unbroken, widening down from Hastings to the great war, from the Saxon Witan and the King's Council to the Parliaments of the Empire. Westminster is the history of our race set in stone. . . . There are garnered all the fruits of a thousand crowded years. . . . There is no work of human hands with a story which can compare with this in the richness of its variety, in the sweep of its grandeur, in the heroic splendour of its chief actors." Professor Lethaby recounts its vicissitudes since its probable foundation by King Edgar prior to the Norman Conquest.

The Dean's Appeal

The following is an excerpt from Dean Ryle's appeal:

"The means placed at the disposal of the Dean and Chapter no longer suffice for its upkeep. The most historic and most beloved sacred building in the Empire is in danger of entering upon a phase of steady structural deterioration.

"Let me explain, for the public cannot be expected to know either the enormous expense which is required for keeping in constant repair the vast extent of the ancient fabric, or the limited resources with which this responsibility is undertaken. During the past thirty years over £100,000 has been expended upon the fabric. This large sum has been obtained partly through the temporary suppression of one of the Abbey Canonries and the use of the income for the fabric, partly through subsidies supplied from time to time by the Ecclesiastical Commissioners in answer to urgent and piteous appeals. At the present moment we are indebted to the extent of several thousands of pounds in respect of moneys borrowed from the Ecclesiastical Commission for essential repairs.

"Now, however, we are faced with a desperate state of things. The sum of money which more than fifty years ago was fixed for the maintenance of the fabric and for the services of the Abbey has become utterly inadequate for those purposes. The immense rise in the cost of materials and in the wages of the staff, together with the greatly increased standard of efficiency demanded in the last half-century from every branch of service to Church and nation, have brought us to the verge of bankruptcy. It has even been necessary, while fabric repairs have unavoidably been postponed, to divert to the absolutely essential duty of keeping up the services and worship of the Abbey the inadequate sum of money which had been 'ear-marked' for keeping the fabric in repair. We are no longer able to pay our way.

"At the same time there is urgent need for:

"(1) The repair of the two great western towers.

"(2) The reparation of the external stonework of Henry VII.'s Chapel.

"(3) The renovation of a large portion of the parapet running round the roof.

"(4) The repair of clerestories and flying buttresses.

"There is besides a continual large outlay required by the maintenance in proper repair of

"(1) The much-decayed Cloisters, and

"(2) The ancient dwellings which, at the present scale of prices, cannot be kept in suitable structural repair (as has hitherto been required) at the private cost of the officials who are the temporary occupants.

"The English-speaking peoples of the world glory in Westminster Abbey. They will not tolerate the thought that its structural condition should suffer through lack of adequate funds. They will expect me to take them into my confidence, as I now do. I know well, after residence for over nine years in this place, and I know well from the extraordinary experiences in the Abbey during the years of the Great War, how dear is this church to the people of this country, to our brothers and sisters in Canada, Australia, New Zealand, South Africa, and India; and, in a peculiar degree, to our brothers and sisters of the great Republic of America. I appeal with a sore heart, hating having to do so, but convinced that it is the only way by which the Abbey can be preserved in a condition worthy of its sacred and historic traditions.

"I ask for the sum of £250,000. Of this the sum of £100,000 is required for structural repairs in the immediate future. The remaining sum of £150,000 should constitute a fund, by which the whole Abbey and any buildings of which the Dean and Chapter are the custodians should in future time be kept in a constant condition of complete efficiency and repair, and be finally freed from the humiliating necessity of appeals being made now for this object and now for that. The available space in the Abbey for the commemoration by tablet, bas-relief, etc., has become exceedingly limited, and unless authorisation is given for the removal of a large number of the less important memorials to vacant spaces in the Cloisters, some other means must in the immediate future be obtained for commemorating the Empire's illustrious dead in the vicinity of the Abbey. A great scheme has been suggested by which space could be obtained, and the splendid view of the Abbey and the ancient Jewel Tower from the south-east could be secured for all time from the possibility of enormous and disproportionate new buildings. If, as I hope, a world-wide and generous response to this appeal yields more than the £250,000 required for the specific objects I have set forth, all moneys over and above that sum would be regarded by the trustees as available for the purchase, as opportunity offers, of property adjacent to the Abbey. This would make it possible at some future time to carry out any approved scheme."

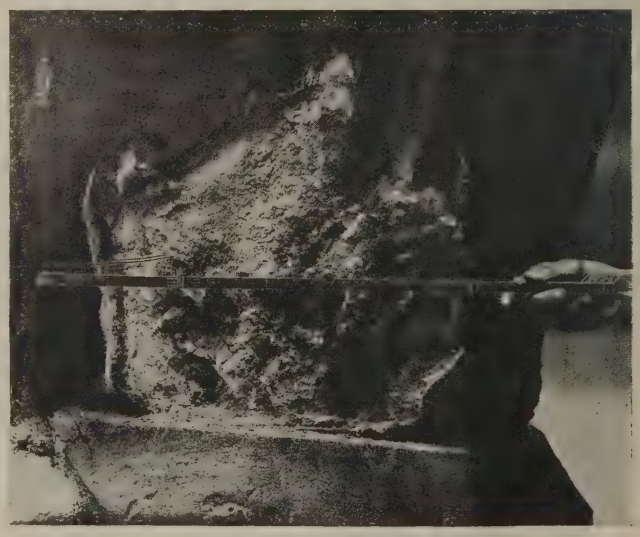


Photo: Topical.

DECAY AT BASE OF FLYING BUTTRESS, HENRY VII. CHAPEL.

Westminster Abbey: View in South Cloister, showing Decay of Walls and Vaulting

Photo: Topical

The cloisters of the Abbey are much decayed, particularly the south cloister, which is exposed to the wind and rain that beat in from the west. The walls and shafts are so seriously crumbled that a collapse is feared if repairs be not at once put in hand. Much of the stonework in this cloister dates from the fifteenth century.

Daniel Asher Alexander

(*Concluded from page* 810, *No.* 1330.)

ALEXANDER'S appointment as Surveyor to the London Dock Company was made in 1796, when he was commissioned to make a survey of the site for the proposed docks; the plans were finished in seventy days, and were published in 1797. Further distinctions awaited this young man, then twenty-nine years of age, for he was called upon to erect a number of lighthouses and to continue the grand traditions of Smeaton. One was the lighthouse at Harwich, another that of Heligoland, which shone clear when Nelson sailed northward to break Napoleon's Continental system; another was on the South Stack at Holyhead. Then followed the shore light of Lundy Island, and three on the Ferne Islands; therefore the Trinity Corporation had every reason to be proud of their scientific surveyor. In the midst of such noble works dedicated to the safety of seafarers Alexander continued to provide accommodation on shore for oversea cargoes, and until 1831 built warehouses in the London Docks; other specialists in this branch of architecture were then obtaining recognition, among whom Philip Hardwick—who, with Rennie, designed St. Katharine's Dock—must be remembered.

Alexander was a man of established reputation when the short-lived peace of Amiens was broken and war again broke out between England and France. Prisoners taken in the naval actions and on land flocked steadily to England, and the two improvised prisons at Norman Cross, near Peterborough, and Stapleton, near Bristol, together with the prison hulks at Plymouth and Chatham, were soon overcrowded. It became evident that a large establishment was urgently required; accordingly the Transport Board attached to the Admiralty applied to Mr. Tyrwhitt, secretary to the Duchy of Cornwall, who obtained the consent of the Prince of Wales to the project of building a prison on Dartmoor. Tyrwhitt, whose ambition is was to reclaim a portion of Dartmoor for agricultural purposes, was member for Plymouth in 1806, and it is more than possible that the appropriateness of the site for this particular purpose came from him. Mr. Tyrwhitt's own house at Tor Royal had been built in 1785, and in its original form followed the usual practice of the West Country, both in its plan and severe architectural treatment. It is likely that the distinguished owner made the designs for the house, lodges, tower, and farm buildings unaided, the granite being worked locally and the joinery obtained from Plymouth. It is necessary to mention this, for later additions, such as the hall and the incorporation of features from Carlton House, suggest the hand of Alexander.

Alexander and Tyrwhitt

Tyrwhitt's acquaintance with the architect began on July 18, 1805, when he was introduced by a member of the Transport Board to the Secretary at Tor Royal, and under his guidance "examined a variety of situations on Dartmoor suitable for prison buildings, and fixed at length upon a place near Mr. Tyrwhitt's lodges." It is, however, more than evident that Mr. Tyrwhitt had predetermined this site in his mind as being the most suitable to aid in the development of his settlement, Princetown. Having made a survey of the ground, and noted the abundance of granite ready for building, Alexander returned to London to prepare plans and estimates, the first of which, amounting to £86,423 13s. 4d., upset the calculations of the Board, so that a second plan had to be devised. The scheme chosen included five prison buildings to hold 1,000 men each, a hospital, petty officers' prison, and barracks for 500 troops. The Government was at the time in great monetary straits, it was evident from previous experience that the war would be a lengthy one, and difficulties in the way of obtaining labour had to surmounted.

Alexander's first plan was to import masons from Yorkshire, but later he reported that "the masons in the country are beginning to rouze," and that he could get them from Cornwall at reduced wages. After four years of incessant labour, during which time the contractors were almost bankrupt, the prison was completed, and on May 24, 1809, the first draft of 2,500 men marched up from Plymouth. A month later the full complement of 5,000, for which the buildings had been designed, were in occupation. The establishment, however, was not finally completed till 1812.

The Prison Buildings

"Ackermann's Repository" for 1810 illustrates the prison as it was originally designed, and another coloured sketch preserved in the Admiralty Records shows the arrangement of the buildings as they appeared in 1812. This drawing, in curious perspective, shows the radial system adopted by the architect, the boundary walls, the reservoir, and the entrance gateway. Like the majority of architects of the period, Alexander had copies of Piranesi's works, including the "Carceri d'Invenzione," a series specially delightful to him, and his taste in this regard is to be seen in the main gateway with its shouldered arch and sunk panel bearing the inscription in Roman lettering, PARCERE SUBJECTIS.

In addition to the prison buildings, Alexander designed several houses to accommodate the numerous officials connected with the establishment, which are still in existence, and include the cottages in the main street at Princetown, the Duchy Hotel, now altered, and the chaplain's house. Between 1811 and 1815 he designed the Church of St. Michael's and the Vicarage, employing masons from among the French prisoners for the fabric, and carpenters from among the Americans for the woodwork. Much that was characteristic of his style has been swept from the interior of the church, but the tower and the windows are intact. Such was the aspect of the famous "Depôt at Dartmoor" and the nucleus of Princetown at the close of the Napoleonic Wars. When Alexander first outlined the buildings on his drawing-board and had recourse to the rhetoric of Piranesi for inspiration in the details, he little thought that fate would people it with a crowd of prisoners who, destitute of clothing, and known as "Romans," would survive all the rigours of several winters of Dartmoor. But the tragic history of Dartmoor was soon to finish, for from July 26 to August 8 Napoleon was viewing the distant heights from the deck of a British battleship in Plymouth Sound, and by the following February the last of the prisoners had left and the gates were locked, leaving the buildings to moulder and rot away. Numerous schemes were mooted to restore the prosperity of Princetown. Tyrwhitt, now Sir Thomas, proposed a railway from Plymouth, which took the public fancy, and this was completed in 1823. Thirty-seven years passed before anything further was done to use the prison, when, in September, 1850, a batch of convicts, under the new system, were transported from Millbank to take up their quarters in the buildings that had been repaired. The fame acquired by Alexander after the publication of his design for the War Prison in "Ackermann's Repository" brought him a commission to build the county prison at Maidstone, on the erection of which he was engaged between the years 1810 and 1817. This work affords complete evidence of his power as a scientific constructor, and although carried out in a quasi-mediæval style, proves him to have had a consummate knowledge of how to impart appropriate character to a building.

It now remains to catalogue other buildings which formed part of this ingenious man's life-work. His clients numbered some of the leading men in England, all of whom treated him as a personal friend. He

rebuilt The Moat, near Maidstone, a seat of the Earl of Romney; carried out alterations at Longford Castle and Downton Church, in Wiltshire; additions to Beddington House, Surrey, and to Combe Bank, in Kent. In 1807 he was called upon by the Admiralty to effect repairs and additions to the Queen's House at Greenwich, and to adapt it to the purposes of a Naval Museum. At a later period he was entrusted with the reparation of Coleshill House, in Berkshire, another work of Inigo Jones, and was complimented by Soane in one of his Academy lectures for the care he had displayed in preserving every part of the original work. His great power was in the suggestion of original and direct means of construction, which brought him clients throughout his long career. Alexander was frequently called upon to give expert evidence in the Courts of Law, and once he completely nonplussed the counsel, James Scarlett, who sought to browbeat him. The case being argued concerned some building operations, and Alexander was in the box. Scarlett's opening question was: "Your occupation is a builder?" "I am more than that," was the reply; "I am an architect." "What is the difference," retorted the irate Scarlett. "There is a distinction," was the reply; "a builder supplies the bricks and an architect supplies the brains." "Very well," snapped Scarlett, "Mr. Architect or Mr. Builder, whichever you like to call yourself, perhaps you will tell the Court from the depths of your knowledge, who was the architect for the Tower of Babel?" Alexander's reply came instantly: "There was no architect; hence the confusion." Scarlett then adopted more polite tactics.

Alexander's knowledge of life, and the love he evinced for the profession he pursued, gained him innumerable friends. He was a force combining with the other great forces of his day to carry on the tradition of the eighteenth century. When we glance at the list of "pupils" who received their early training under his care, it is possible to understand the real value of pupilage under such a master. The names of the pupils are evidence of this. They include those of W. H. Aspital, James Beck, Joseph Woods, John Whichcord, who carried out the superb stone building at Maidstone, James Pritchett of York, Edward I'Anson, John Wallen, and Richard Suter. His eldest son Daniel was also a pupil, and practised for some time with distinction; but he left architecture in 1820 for the Church. His work consisted of assisting his father, and on his own account designing the church and tower at Walton-on-the-Hill, and the library at Beddington House, near Croydon, in 1818.

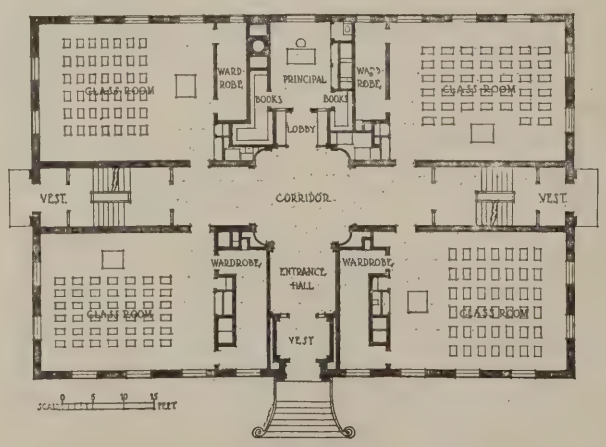
In writing this appreciation of Daniel Alexander, the writer acknowledges the obligation he is under to the architect's granddaughter, who treasures her distinguished relative's memory in a thousand ways. This lady recounted many pleasant anecdotes of his life, his passionate conversations and eloquent sayings. It enabled the writer to gather an impression of the architect's personality such as cannot be gleaned from terse biographies—details of his life in London, the gifts bestowed on him by grateful clients, his ready wit, his house in Exeter, where he died in 1846, and his wish to be buried in the churchyard at Yarmouth in the Isle of Wight, the tower of which he had raised at his own cost the better to mark the channel at that part. Alexander belonged to the race of architect-engineers, now unfortunately extinct; he enjoyed a happy and useful life; nor will he be forgotten, for his works are sufficient testimony to his fame.

A. E. R.

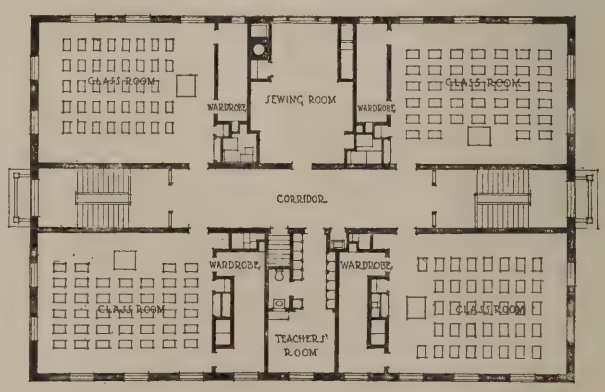
Appointment of Architect for Welwyn Garden City

After considering a very large number of applications, Welwyn Garden City, Ltd., have appointed Mr. Louis de Soissons, A.R.I.B.A., S.A.D.G., as the architect for the new town. Mr. de Soissons studied at the Royal Academy in London, and was pupil of Mr. J. H. Eastwood, architect of Leeds R.C. Cathedral, etc. He completed his studies at Paris by post graduate course at the Ecole des Beaux-Arts, where he entered the atelier of one of the greatest of masters, Jean Louis Pascal, who died a few weeks ago. Mr. de Soissons has received several prizes for design at the Royal Academy; he won the R.I.B.A. Tite Prize; passed the Ecole des Beaux-Arts examination first on the list, where he also won five honours in design; he was also awarded the R.I.B.A. Rome Prize (Henry Jarvis Bequest). He has practised in London and Paris, and has recently been engaged on reconstruction work on the Somme and the Meuse. Mr. de Soissons will devote the whole of his time to Welwyn Garden City, and those who have come into contact with him expect much brilliant work from him there.

[A plan of the new Garden City, which has already been laid out from the designs of Mr. de Soissons, appeared in our issue for June 23.]



Ground Floor.



First Floor.

PLANS OF THE GRADE SCHOOLHOUSE, NORTH EASTON, MASS., U.S.A. CHARLES M. BAKER AND STANLEY B. PARKER, ARCHITECTS.

Modern American Architecture. 5.—Grade Schoolhouse, North Easton, Mass.

Charles M. Baker and Stanley B. Parker, Architects

English eighteenth-century tradition has been closely and successfully followed in the above building. The basement walls are of cast stone, the exterior walls above the basement being of water-struck brick, laid in English cross bond and backed with terra-cotta blocks. The cornice and trimmings are of wood, and the roof of slate. Our reproduction is from the "Architectural Forum."

R.I.B.A. : Proceedings of the Council

The City Churches.—The Council have appointed two members—the President and Mr. George Hubbard—to represent the R.I.B.A. on the Joint Committee which has been set up to consider the question of the threatened City churches.

The Imperial Forestry Conference.—The Council have appointed the following members to represent the R.I.B.A. at the Imperial Forestry Conference: H. D. Searles-Wood, Alan E. Munby, W. Henry White, Digby L. Solomon, J. Ernest Franck.

Competitions.—The Council have taken action in the case of several members who have sent in designs for competitions which have been vetoed on the recommendation of the Competitions Committee.

"Luxury" Building.—An enquiry into the actual working of the restriction of building by the local authorities has been initiated, and the Building Industries Consultative Board has approached the London County Council on this matter.

Ulster Society.—A resolution has been received from the Ulster Society of Architects warmly supporting the Council's policy of unification and registration.

Mr. Thomas E. Collcutt.—In passing a resolution for the transfer of Mr. Thomas E. Collcutt, Past President, to the class of Retired Fellows, the Council have taken the opportunity of expressing to him their grateful appreciation of his many services to the Royal Institute and to the art of architecture.

The Form of Contract and the "National Building Code."—The revised form of contract has now been completed. A conference is to be held with the representatives of the Surveyors' Institution and the National Federation of Building Trades' Employers to discuss the new form and the "National Building Code."

The Increase of Rent Bill.—The Council have approached the Surveyors' Institution with the object of taking joint action to obtain an amendment in the Increase of Rent Bill in the interests of architects and surveyors.

Standing Committee on Water Board Regulations.—Mr. H. Austen Hall has been appointed in place of Mr. Alan E. Munby, resigned, to represent the R.I.B.A. on the Standing Committee on Water Board Regulations.

The Scale of Fees for Housing Schemes.—The negotiations with the Ministry of Health on the revision of the agreed scale of fees for housing schemes are nearly completed, and it is hoped that an amended scale will be published at an early date.

Duration of the Session.—Under By-law 57 the duration of the current session has been extended until November 1, 1920.

The R.I.B.A. Garden Party

The President and Council of the Royal Institute of British Architects on Tuesday afternoon last week held a reception in the library at the Zoological Gardens, Regent's Park, and afterwards gave a garden party in the grounds. The occasion was mainly to welcome home members and friends of the Royal Institute who had been absent during the war.

Mr. John W. Simpson, President of the Institute, with Mr. E. Guy Dawber, Mr. Walter Cane, Mr. George Hubbard (vice-presidents), and Professor S. D. Adshead, Mr. A. W. S. Cross, and Mr. Arthur Keen received the guests, numbering, it is estimated, about 1,300.

Among those who attended were Sir Aston Webb, President of the Royal Academy, and Lady Webb; the Prime Warden of the Saddler's Company, Sir Henry Tanner, Sir David Murray, R.A., Sir John Burnet, Sir Charles Woodstock, Sir Banister Fletcher, Sir Frederick Kenyon, Major Harry Barnes, M.P., and Mrs. Barnes, Sir Edwin Lutyens, Dr. and Mrs. Walter Walsh, the Master of the Carpenters' Company, and the mayors of several important boroughs. The band of the Irish Guards played during the afternoon, and tea was served on the great lawn.

Beside the reception being a "welcome home," for many it was an opportunity of reunion, and, standing in the library when the guests were being announced, one saw many friends meet gladly after, maybe, losing sight of one another through most of the war years.

The day was one of fine weather. Clouds scudded overhead in the afternoon, but the early evening was tranquil and clear. The gathering assembled on the great lawn and other reserved enclosures, or found pleasure—sometimes touched with excitement!—in paying respects to the lions and other denizens of the Zoo.

Very many of the guests assured the writer that they had not been in the gardens since a good many years before the war—some, indeed, since the introduction of the Mappin terraces.

Photo: Topical

THE R.I.B.A. RECEPTION IN THE LIBRARY OF THE ZOOLOGICAL SOCIETY, REGENT'S PARK.

Correspondence

Unhealthy Areas

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—In your comment upon the Unhealthy Areas Committee's Report you refer to the necessity of considering means of transport for workers "more carefully than the local authorities building garden cities around London" have done hitherto. I hope you will permit me to remind you that no local authority has ever built a garden city around London or even proposed to do so. The recommendations of the committee deal with garden cities which the committee define as communities "where the inhabitants will live close to their work under the best possible conditions. . . . . These communities should not exceed from 30,000 to 50,000 people, and should be surrounded by a belt of agricultural land." There is only one garden city scheme that has been designed with specific relation to London housing which satisfies that definition—the Welwyn Garden City, which is a private enterprise. Mr. E. J. Brown's addendum to the report on the subject of transport applies to the housing schemes of local authorities, which are sometimes given the fancy name of "Garden suburb"; but these schemes have nothing in common with the garden city. In a garden city the problem of daily transport of workers from their homes to their work does not arise.

C. B. PURDOM, Secretary.

The Garden Cities and Town Planning Association, 3, Grays Inn Place, Grays Inn, London, W.C.

The New Building Code

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—The building industry never stood more in need of unity and co-operation than it does to-day. It is, like most other things, in the process of reconstruction, and our very future depends largely upon its successful remodelling.

In projects for building works a sort of nebulous idea is held by the profession that a certain party (building owner) requires protection against the rapacity of another party (the contractor). It is time a clear issue was forced on this point, and the Federated Builders' Code is an earnest attempt in this direction. Implicitly the Code is a sweeping condemnation of the professionals' incompetence in the stage management of this feature. They have failed utterly in the exercise of their enormous powers (either by harsh treatment or want of knowledge), resulting in bringing the house down upon themselves. In ordinary building contracts—R.I.B.A. or S.A. form—the architects have certain discretionary rights, but it does not follow that they possess the practical knowledge to perform these duties. In other words architects should be freed from this obligation and their powers curtailed. They should become examiners of work, and have power merely to sanction and approve. Architects have undertaken too much in the past under the broad term "supervision," and the assumption of these responsibilities has resulted in numberless cases to their undoing. It is far too comprehensive, and, what is more to the point, the contractor is the one who should be held responsible for the practical carrying out of the work, and the supervision of his workpeople, workmanship, and materials. Make the contractor responsible and let him know that he is responsible, in which case the building owner would have his redress against the contractor for any defects.

A code, after the manner of that of the federated builders, should protect the professionals against the building owner, be he individual, company, or public authority. The professionals are in sore need of this protection. Their work is too much regarded by the building owners as a speculation up to a point, i.e., if the work is not proceeded with, then their fees can be met by the payment of their out-of-pocket expenses. Surely it is time we applied ourselves collectively to combating this erroneous, fallacious, and obnoxious assumption.

One other point: Some better method should be devised for the payment of fees. If it is necessary that the contractor should have a guarantee that his work will be paid for, so should the architect and surveyor have some guarantee of a like nature.

SURVEYOR.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—"Jerome," in your issue of June 30, implies that quantity surveyors' fees are adequate to comply with the Code provided they are not divided between the architect and surveyor. He does not say what fees he refers to; whether it be the scale of charges for quantity surveying of the Surveyors' Institution, of the Quantity Surveyors' Association, the revised scale of professional charges of the R.I.B.A., or the scale of professional charges of the Society of Architects.

These various scales of charges are conflicting to the lay mind, and it shows lack of unity and dissension among the profession. As an illustration in point, the architectural profession took the initiative (and appropriated the right) of arranging with the Ministry of Health as to the fees to be paid for quantity surveying in connection with housing without consulting the other institutes and associations interested. Further, prior to this, the architectural profession never included for quantity surveying in their schedule of professional charges.

When I suggested that the extra responsibility and duties could be met by an increase in fees I had in mind that the architectural profession had increased their fees from 5 per cent. to 6 per cent., and builders generally have increased their rate of percentage of profit. It would be natural to presume that the quantity surveyors are likewise entitled on the same ground to an increase in fees.

Several of your correspondents have pointed out the urgency and necessity of united action and agreement. This question of fees is a vital point upon which an immediate agreement should be arrived at, for it affects our very welfare. As it is we are in competition with one another, and none, I feel sure, can claim any advantage from it.

The Quantity Surveyors' Association is the only body that gives some semblance of a guarantee that quantities prepared by any of its members shall be reasonably accurate. Therefore, there is much food for reflection in "Builder's" letter in your issue of June 30.

T. SUMNER SMITH.

Luxury Building

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I am instructed to send you the enclosed copy of reply from the Ministry of Health with reference to our letter to Dr. Addison on "Luxury Building." The words "minimum of disturbance" may be noted with interest.

CHAS. MCLACHLAN,

Hon. General Secretary, Architects' and Surveyors' Assistants' Professional Union.

[ENCLOSURE.]

SIR,—In reply to your letter of the 18th ult., I am directed by the Minister of Health to state that, whilst the question of action under Section 5 of the Housing (Additional Powers) Act, 1919, is primarily a matter for consideration by the local authorities, the Ministry has impressed upon the authorities the necessity for great care and discretion in the exercise of their powers. The attention of such authorities has been called to the fact that action should be taken only in cases where the provision of dwelling accommodation is in fact delayed, or likely to be delayed, and that the ideal to be aimed at is the securing of an adequate house-building programme with the minimum of disturbance to the building trade.

E. TUDOR OWEN
(for Assistant Secretary).

Ministry of Health, Whitehall, S.W.1.

Architectural Education and Schools of Art

To the Editors of THE ARCHITECTS' JOURNAL.

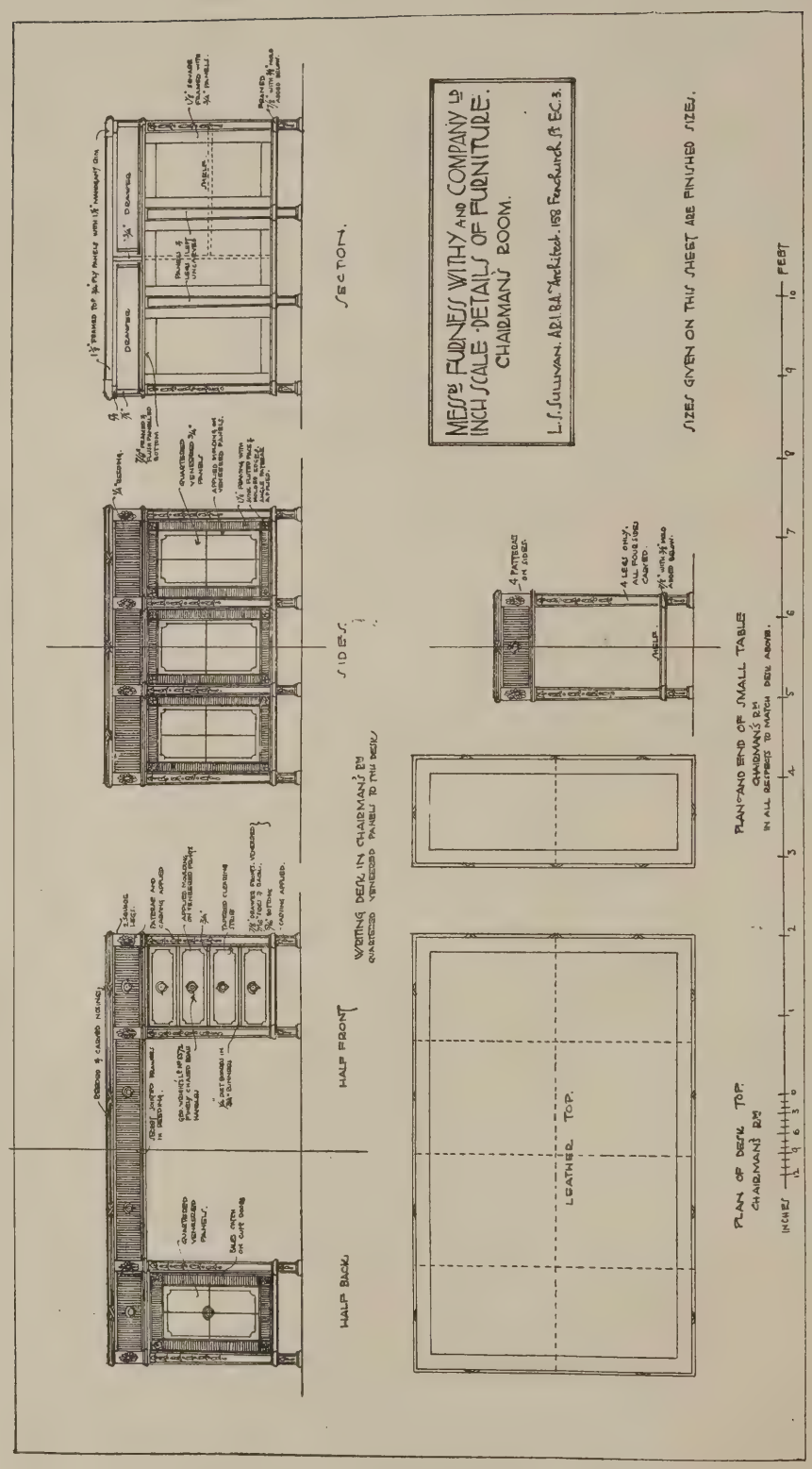
SIRS,—In a recent issue of the JOURNAL Professor Reilly corrects a statement of mine in a previous letter, and I am grateful to him for his correction and for his clear explanation of the architectural courses organised at the Liverpool School of Art for ex-Service men.

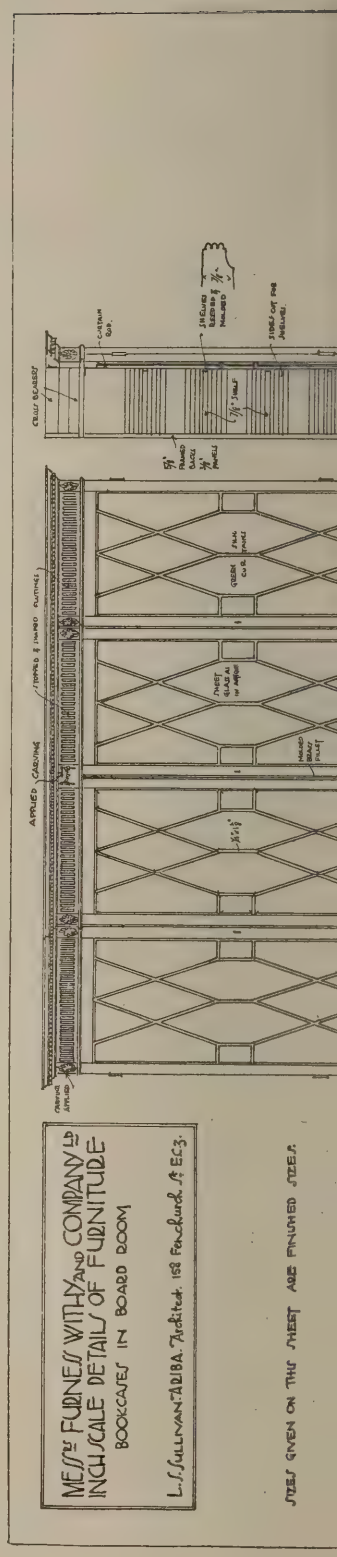
I should be glad if you would allow me to explain how the mistake has arisen. A few weeks ago a contemporary building paper published a series of illustrations of students' drawings and definitely attributed them to the Department of Architecture of the Liverpool School of Art. Assuming that such a definite statement would not be made except on very good authority, I naturally concluded that it was correct, and accordingly mentioned Liverpool as well as Leicester and Leeds as being a School of Art having a Department of Architecture, not seeing the subsequent correction in your contemporary until after my letter had been sent to you.

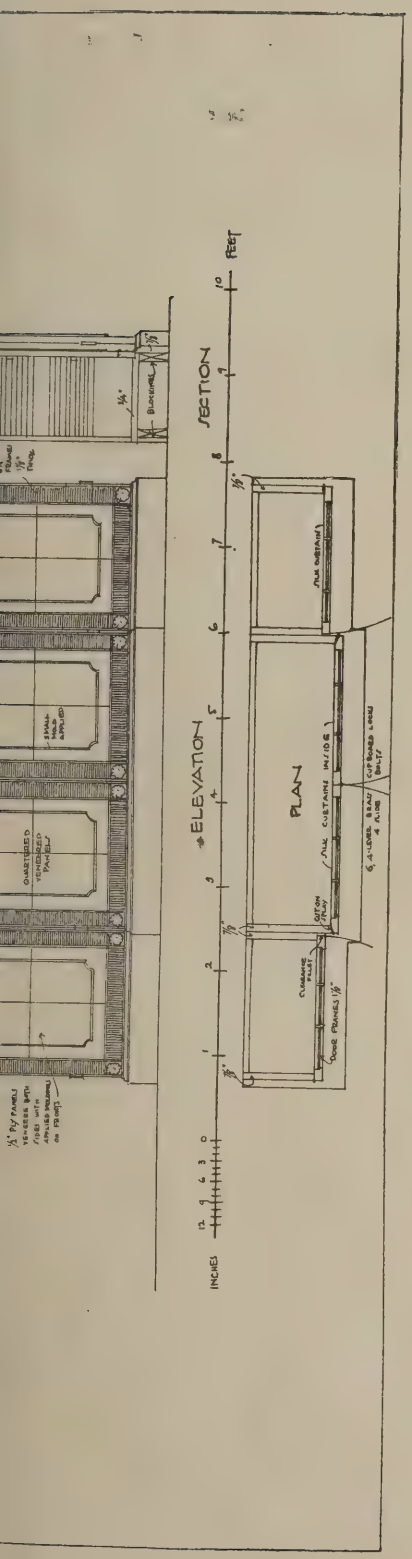
In reference to the Leeds Department of Architecture and Professor Reilly's remark on local conditions, I should like to state that if the department had not been founded by the Leeds Education Authority, with the support of the Leeds and

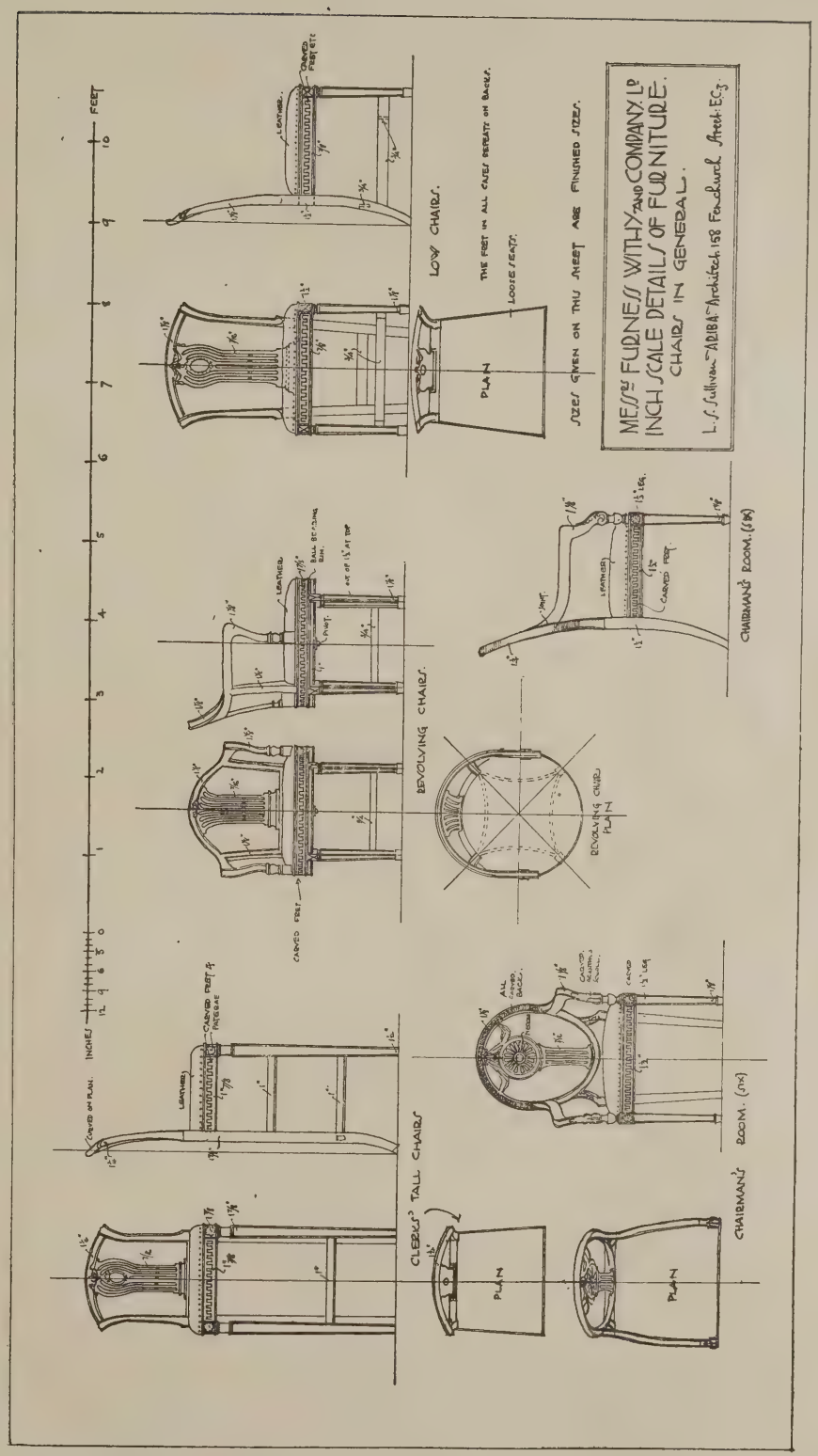
Furniture. 4.—Tables, Bookcase, and Chairs for the New London Offices of Messrs. Furness Withy and Co., Ltd.

Designed by L. S. Sullivan, A.R.I.B.A.









These illustrations are from drawings of part of the furniture and fittings designed for the new offices of Messrs. Furness Withy and Co., Ltd., in Leadenhall Street. The whole of the work is in choice veneered Cuba mahogany, with a limited amount of brass ornament, and is being carried out and carved by The Bath Aircraft, Ltd., at their factories at Bath. The brass grilles, ornaments, and brass furniture are being supplied by Messrs. George Wright, Ltd., to special designs.

West Yorkshire Architectural Society, there would have been no public facilities at all for architectural education in the district, and consequently the formation of the department has served to meet a very urgent need, particularly at the present time.

GEORGE J. COOMBS.
Leeds School of Art.

Schoolmasters and General Practice

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—The following resolution of the Council of the R.I.B.A. on the subject of the status of the teachers in schools of architecture may be of interest to your readers:

"On the recommendation of the Board of Architectural Education, the Council of the Royal Institute have passed the following resolution:

"That no professor or master of a 'recognised' school should be debarred from general practice."

IAN MACALISTER,
Secretary R.I.B.A.

Appointments Abroad

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I receive from time to time from members who contemplate taking up appointments abroad enquiries as to cost of living, housing accommodation, climate, minimum possible incomes for single and married men in various parts of the world. I have also had brought to my notice recently a case showing that primitive life in the Colonial possessions and Dominions of the Empire is not always so simple, or so simply lived on the salary provided, as some of us here are inclined to think.

Perhaps, therefore, you will be good enough to allow me to appeal, through the medium of your columns, to all readers abroad to send me in confidence a statement of the general conditions prevailing on the lines indicated above, so that I may be able to advise enquirers accordingly. Privilege to introduce members would also be welcome.

CHAS. MCLACHLAN,
Hon. Gen. Sec., Architects' and Surveyors' Assistants' Professional Union.

The Lincoln Statue

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—A statue—as you doubtless know—is being erected to Abraham Lincoln in Parliament Square. I am surprised to find that the base is composed of only temporary material. So far as I can ascertain, it consists of a framework of timber with a casing of artificial stone.

My first thought was that the base might be a "dummy" erected by the sculptors to see how it would look, but it would appear that this is to be permanent.

Unless it is intended that this base shall be all "putty, brass, and paint," I fail to see why it should be erected at all. England has at the present time but one statue to Lincoln (that at Manchester); surely it can afford to erect the London replica of St. Gaudens's fine statue on a base of stone.

OBSERVATOR.

Unification and Registration

It will be remembered that, on the recommendation of the Council of the R.I.B.A., a special general meeting decided that a committee representative of the whole profession should be formed for the purpose of preparing a scheme of unification and registration. The formation of this committee is now practically complete, and its members and constitution are as follow. It is expected that the first meeting of the committee will be held next month:

The Unification Committee.

Chairman.—The President, Mr. John W. Simpson.

Past-Presidents.—Sir Aston Webb, P.R.A., K.C.V.O., C.B.; Sir Reginald Blomfield, R.A., Litt.D.

(*a*) Representatives of the R.I.B.A.:

Eight Fellows.—Sir Banister Fletcher, Mr. Paul Waterhouse, F.S.A., Mr. C. Stanley Peach, Mr. A. W. S. Cross, Mr. Arthur Keen, Mr. E. Stanley Hall, Major Harry Barnes, M.P., Mr. James S. Gibson.

Seven Associates.—Mr. Horace Cubitt, Mr. Herbert A. Welch, Mr. K. Gammell, Mr. W. R. Davidge, Mr. Digby L. Solomon, Mr. G. Leonard Elkington, Mr. P. W. Hubbard.

Seven Licentiates.—Mr. H. Ashcroft, Mr. H. R. Bird, Mr. George Carter, Mr. A. J. Penty, Mr. Francis R. Taylor, Mr. Samuel Taylor, Mr. J. E. Yerbury.

(*b*) Representatives of the Allied Societies in the United Kingdom:

1. The Aberdeen Society of Architects.—Mr. George Watt (F.).
2. Birmingham Architectural Association.—Mr. H. T. Buckland (F.).
3. Bristol Society of Architects.—Mr. G. C. Lawrence (A.).
4. Devon and Exeter Architectural Society.—Mr. Lewis Tonar.
5. Dundee Institute of Architects.—Mr. A. Granger Heiton.
6. Edinburgh Architectural Association. Mr. W. T. Oldrieve (F.).
7. Glasgow Institute of Architects.—Mr. Wm. B. Whitie (F.).
8. Hampshire and Isle of Wight Association of Architects.—Mr. J. B. Healing (A.).
9. Royal Institute of Architects of Ireland.—Mr. Lucius O'Callaghan.
10. Leeds and West Yorkshire Architectural Society.—Mr. W. Carby Hall (F.).
11. Leicester and Leicestershire Society of Architects.—Mr. A. H. Hind (F.).
12. Liverpool Architectural Society.—Mr. T. Taliesin Rees (F.).
13. Manchester Society of Architects.—Mr. A. W. Hennings (F.).
14. Northamptonshire Association of Architects.—Mr. J. Alfred Gotch, F.S.A. (F.).
15.—Northern Architectural Association.—Mr. C. S. Errington (F.).
16. Nottingham and Derby Architectural Society.—Mr. H. G. Watkins (F.).
17. Sheffield, South Yorkshire and District Architectural Sciety.—Mr. C. B. Flockton (F.).
18. South Wales Institute of Architects.—Mr. Ivor Jones (A.).
19. York and East Yorkshire Architectural Society.—Mr. L. Kitchen (F.).
20. The Institute of Scottish Architects.

(*c*) Representatives of the Allied Societies in the Dominions:

Africa.—Mr. Herbert Baker (F.).

Australia.—Major H. C. Corlette, O.B.E., R.B.C. (F.).

Canada.—Mr. Andrew T. Taylor (F.).

New Zealand.—Mrs. S. Hurst Seager (F.).

(*d*) Representatives of the Architectural Association (London).—Mr. Maurice E. Webb, D.S.O., M.C. (F.); Mr. G. Gilbert Scott, A.R.A. (F.).

(*e*) Representatives of the Society of Architects.—Mr. Edwin J. Sadgrove (F.), Sir Charles T. Ruthen, O.B.E. (F.), Mr. A. Burnett Brown, Mr. George H. Paine, Mr. Noel D. Sheffield, Mr. Edwin J. Partridge, Mr. C. McArthur Butler.

(*f*) Representatives of the Architects' and Surveyors' Assistants' Professional Union.—Mr. R. G. Llewellyn-Evans, Mr. Charles McLachlan (A.).

(*g*) Representatives of the Official Architects' Association.—Mr. W. E. Riley (F.), Mr. Sydney Perks, F.S.A. (F.).

(*h*) Representatives of the Ulster Society of Architects.—Mr. N. Fitzsimons (F.).

(*i*) Representatives of Architects Unattached to any Professional Organisation.—Mr. G. E. Marshall (Liverpool), Mr. A. H. Mooring Aldridge (Bournemouth), Mr. A. M. Cawthorne (London).

A.A. Changes for Session 1920-21.

The A.A. is passing through a phenomenal period of prosperity; the new premises at Bedford Square are already overcrowded, and the Association is taking steps further to enlarge the accommodation. The pressure on the directorate of the schools is such that many important changes have been decided upon by the Council with a view to further extending the scope and value of the training.

The main changes are in the direction of increased efficiency in training, and, generally speaking, of depth of research.

The old day school has been reorganised into two sections: A preparatory school of approximately two years' duration, and an advanced school of one year's duration, leading onwards to five specialised courses called "Graduated Courses" in Construction, Design, Communal Planning, Decoration, and Business. The A.A. Diploma is awarded after a two-years' course in the above subjects, which diploma will be (under certain conditions) accepted by the Institute in lieu of the final examination, with the exception of Professional Practice Section.

These Graduated Courses were inaugurated in 1919, and have now been running a full session, with such satisfactory results that the Council have confidence in their meeting the need for higher education in specialised subjects.

Mr. Robert Atkinson has been appointed Director of Education, a post equivalent to that of Dean in a University faculty, and a strong committee of experienced teachers has been created as the school directorate.

Mr. H. M. Robertson, Dip., E. de B.A., Reg. A., New York State, has been appointed the new Principal of the Day School, with Dr. Faber, D.Sc., O.B.E., A.M.I.C.E., A.M.I.E.E., A.C.G.I., in charge of the Constructional Graduate Course, Mr. L. H. Bucknell, A.R.I.B.A., in charge of the Graduate, Design and

Communal Planning Course, and Mr. P. W. Farmer in charge of the Business Course.

The A.A. Atelier has recently been run by Mr. Robertson, and Mr. Bradshaw, Rome Scholar, 1912, has been appointed to succeed him as Sous-Patron.

With the very efficient staff of masters already in the school the new appointments make the A.A. teaching staff one of the strongest imaginable, and well worthy to uphold the traditions of the only independent architectural school run entirely by architects.

The Council very much regrets the loss to the school of the services of Mr. Robert Lowry, Deputy-Principal, who has decided to devote his full time to practice in the future.

Book Notices

Property Law and Investment.

Every architect aims at acquiring a fair working knowledge of property law. He seldom studies the subject at all systematically, however, but picks it up casually. Mr. S. Ford, who, besides being a barrister-at-law, is an hon. A.R.I.B.A., and has been an examiner in building construction, is obviously well qualified both to understand the points on which an architect is likely to be most in need of advice and to give that advice. Since his concise manual on property law and investment is now in its seventh edition, there is good reason to suppose that the book has been found serviceable; and in any case its competency to render this form of first-aid would be a fair inference from the character of the contents. It is of still greater use, however, to the general public, to whom the very sound advice is given that they should go to the R.I.B.A., or to the S.A., or to the Surveyors' Institution for the professional aid that falls within the respective provinces of these organisations; and he throws out this wholesome warning: "It is almost unbelievable that in this twentieth century anyone—be he tinker, tailor, soldier, or sailor—can put up a brass plate on his door and dub himself 'Architect,' there being no existing power to prevent him." When the next edition of this useful little book appears (and may it be soon!) this passage will, we hope, need drastic revision. In the meantime, Mr. Ford is certainly helping on the movement that, sooner or later, will make this alteration necessary.

"Notes on Property Law." With practical hints on house hunting and investments in real property. By S. Ford, of the Inner Temple and Western Circuit, Barrister-at-law, Hon. A.R.I.B.A., etc. Seventh edition. London: Eveleigh Nash Co., Ltd. Price 2s. 6d. net.

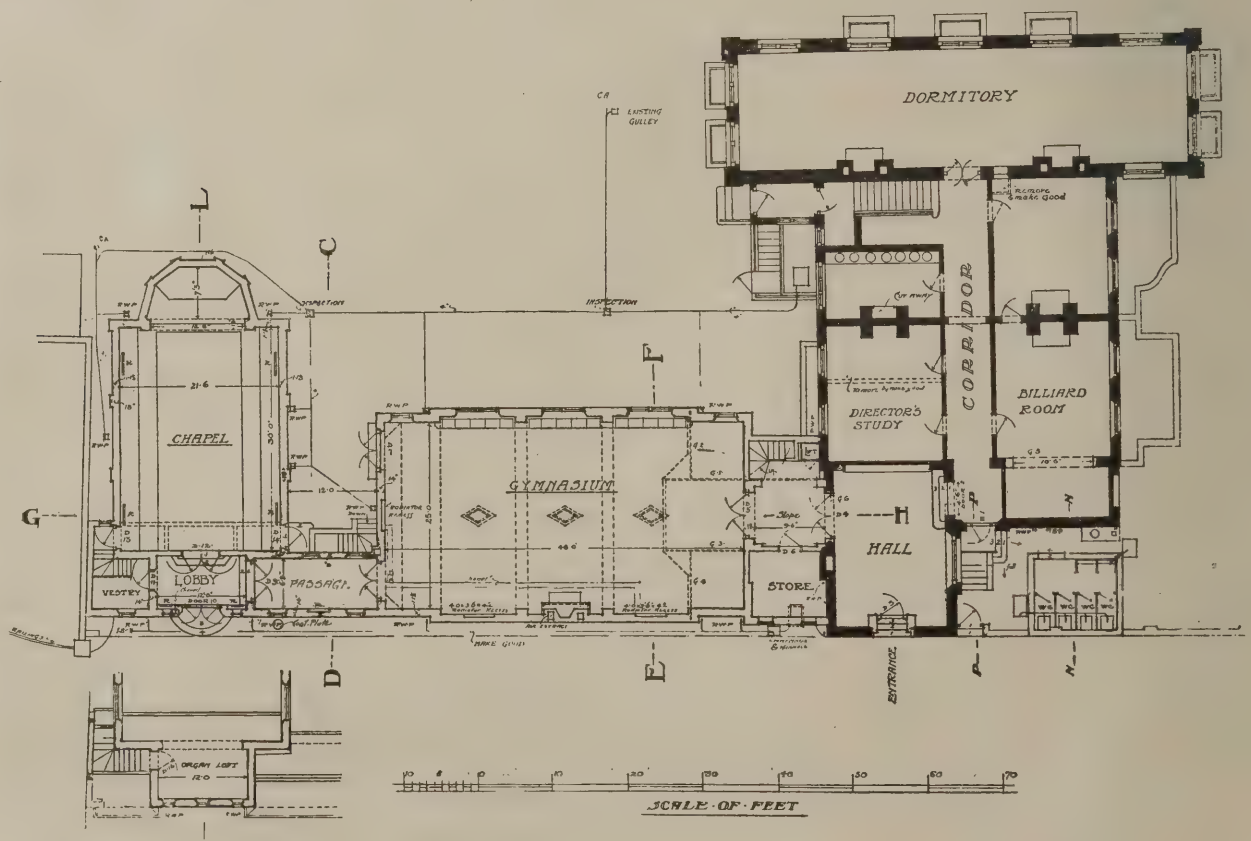
The Working Woman's House.

It has become more clearly recognised that the house really is the working woman's rather more than it is the working man's. Of the many manuals making this idea very plain that have lately seen the light, none is more convincing than that bearing the names of A. D. Sanderson Furniss and Dr. Marion Phillips. They have ascertained, and set forth with admirable terseness, but very thoroughly, what sort of house the average working woman wants, how she would have it planned, built, and equipped. Small as it is, the manual is divided into five parts, of which the first expresses "The Views of the Woman in the Home"; the second describes the "inside of the house" as, on the one hand, it is, and as, on the other, the working woman thinks it should be; the third describes and advocates co-operative house management; the fourth is a disquisition on "the healthy town," with a very brief outline of the history of its rise and development; and the fifth deals with "The New Housing Act and Women's Needs." A few useful illustrations are included, and all who are interested in housing schemes (and who is not?) will find in this little book much valuable stimulation and guidance.

"The Working Woman's House." By A. D. Sanderson Furniss and Marion Phillips, D.Sc. (Econ.) Price 1s. 6d. net. London: The Swarthmore Press, Ltd., 72, Oxford Street.

Weekly Housing Report

New housing schemes submitted to the Ministry during the week ended June 26, numbered ninety-eight, bringing the total number of schemes submitted to 10,535, comprising about 71,000 acres. The schemes approved now number 6,919, and comprise about 51,000 acres. Seventy-eight lay-out schemes were submitted and seventy approved during the week, bringing the total number of lay-outs submitted to 4,995, and the number approved to



BOYS' HOME, CLAPHAM, LONDON, S.W.: GROUND FLOOR PLAN. LIONEL U. GRACE, F.R.I.B.A., ARCHITECT.

Lionel U. Grace, F.R.I.B.A., Architect

With money bequeathed to Mr. Baker, Principal of this Institution for the education of homeless children, a gymnasium and a chapel were constructed as shown by the plan on the opposite page. One of the conditions was that the chapel should be accessible to the public. Simplicity and economy had to be constantly held in view in order to keep within the limits of the bequest.

4,409. House plans, representing 2,872 houses, were submitted, and plans for 2,856 houses approved. The total number of houses represented in all the plans now submitted is 225,088, and in the plans approved 211,213. During the week tenders were submitted for 3,174 houses. Tenders for 4,318 were approved, bringing the total number of houses in tenders submitted to 132,697, and in tenders approved to 118,721. Contracts have been signed for some 62,700 houses.

Cost of Sites for Housing Schemes

The provision of suitable building sites at a reasonable expenditure is an important feature in the efficient and economical carrying through of housing schemes. In terms of arrangements made by the Scottish Board of Health, the Valuation Office of the Board of Inland Revenue is available to conduct negotiations with landowners on behalf of local authorities in cases of dispute. As a result, a very considerable reduction has been effected on the prices asked by owners of land. By October, 1919, the Valuation Office had effected a reduction of £29,755, or 38 per cent., on the prices asked by owners, the adjusted price averaging £141 per acre. By May 31, 1920, the total reduction effected had increased to £102,241, the average rate per acre adjusted being £171. It may be noted that the percentage of reduction effected decreased to 27 per cent., attributable to the fact that owners, profiting by experience gained from previous cases, have refrained from asking such high prices for the land as formerly.

These figures should be of peculiar interest to local authorities, and should encourage those who have not already done so to entrust negotiations for the purchase of sites to the district valuers, as recommended.

Clifton Park Race Stand, Blackpool

One of the most useful applications to which reinforced concrete can be put is in the construction of race and football stands, where great stability and strength are of the utmost importance.

The Clifton Park Race-stand, which forms the subject of this article, is constructed entirely of reinforced concrete, and has accommodation for about 20,000 people.

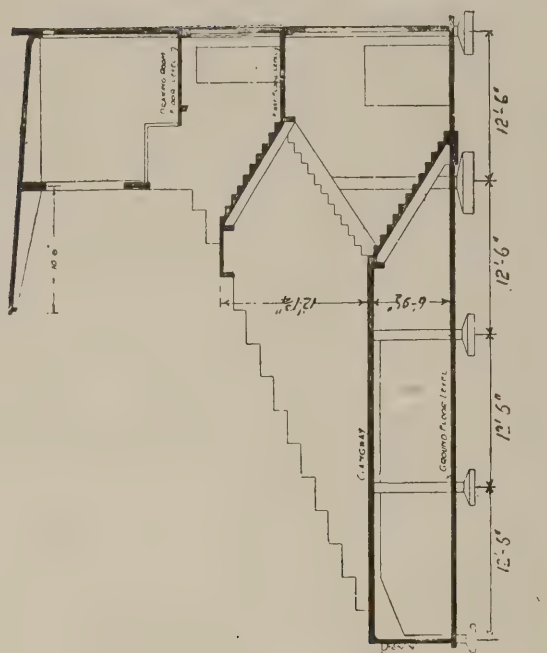
The total length of the stand is about 466 ft., and the depth about 50 ft. 9 in., the columns being spaced across the depth at intervals of about 12 ft. 6 in., giving three intermediate rows of supports. About 96 ft. in length is given up for the accommodation of members, with a bar and smoking-room on the ground floor, and a drawing-room at the back of the second floor. Luncheon-room accommodation is also provided on the ground floor. Another 83 ft. in length is appropriated to Tattersall's, with a large luncheon-room on the ground floor, the remainder of the space being given up to ordinary spectators, with a large luncheon-room and bars on the ground floor.

The Kahn system of reinforcement was employed, and a working load test on one bay, which was made after six weeks, did not produce any deflection. The total height of the stand is 36 ft., the first floor level being 13 ft. 9 in. from the ground level at the back, the latter point being 6 ft. lower than the ground level at the front. The drawing-room floor level is 8 ft. 6 in. above the first floor level, and the stand has a cover which projects 23 ft. from the extreme back of the stand, or 10 ft. 6 in. from the column centre which carries the fulcrum beam. Only the two back rows of columns extend to the full height of the stand, as the remainder are stopped at the underside of the stringer beams below the tiers which they carry. In the members' and Tattersall's portions of the stand the treads are 2 ft. 9 in. wide and the risers are 13¼ in. high, giving a total number of nineteen treads in the height. The same conditions apply in the 10s. 6d. stand, but in the 2s. 6d. stand the treads are reduced in width to give a total number of twenty-seven.

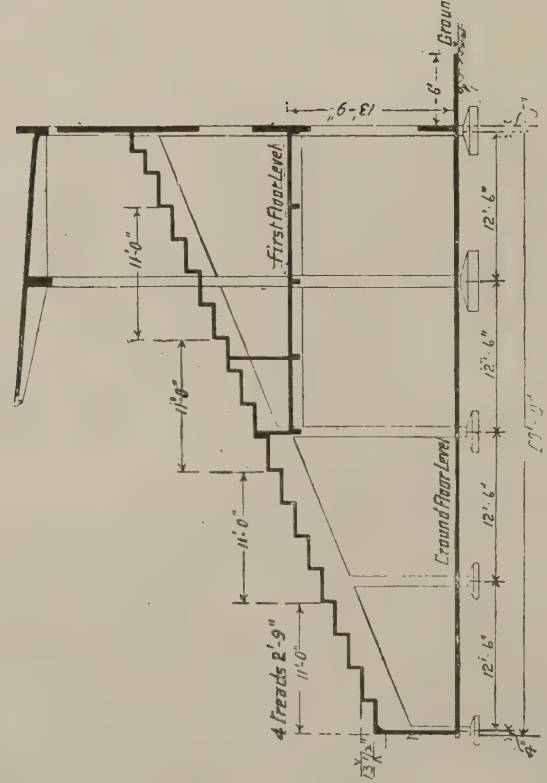
The front row columns have a free length of only 4 ft., and these are 8 in. square, reinforced with four ⅜ in. Kahn rib bars, with links at 8 in. centres in the height. The second and third rows are about 9 ft. and 15 ft. high respectively, and these are increased to 10 in. square, reinforced with four ½ in. rib bars, with links as above. The fourth and fifth rows are the two back rows, which extend to the full height of the stand, which is 36 ft., and these have beams connected to them at various intervals in the height. The size of these columns varies from 8 in. square, reinforced with four ½ in. Kahn rib bars at the top, to 12 in. square, reinforced with four ⅝ in. rib bars at the bottom.

The risers are 3 in. thick, and these act as beams, being reinforced on the lower edge with one ½ in. rib bar carried through straight for the whole length and one ⅜ in. bar bent up at the ends and carried over stringer beams into the next bay for a distance of 18 in. to take the shear and negative bending moment. Stirrups are provided at 27 in. centres, these being ¾ in. by 1-16 in., carried well up into the concrete. The treads which are carried by these riser beams are formed as slabs 2½ in. thick, reinforced with ¼ in. rods at 9 in. centres in the lower surface, hooked up and down at the ends into the risers. Temperature rods ¼ in. diameter are provided in each tread, 18 ft. long, with a lap of 12 in. at the ends with the adjoining rod. The stringer beams vary in size, the largest being 24 in. deep and 8 in. wide, reinforced with two ½ in. Kahn

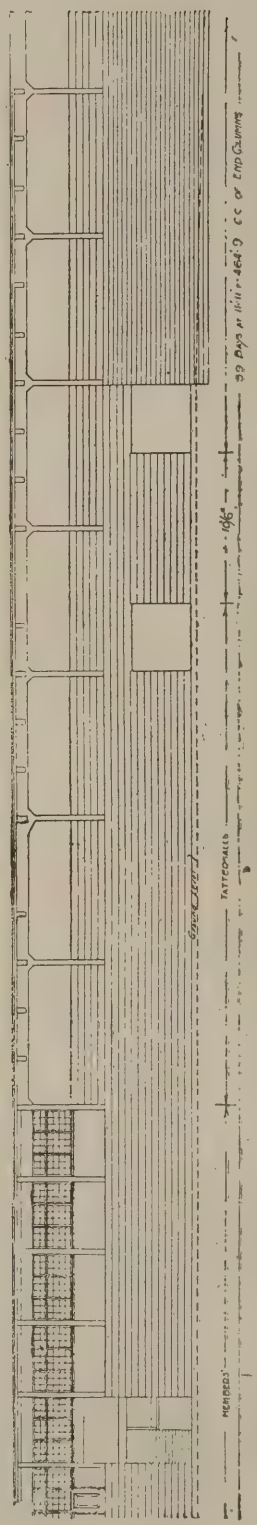
CLIFTON PARK RACE STAND, BLACKPOOL.



Section through Gangway, Members' Stand.



Section through Members' Stand.



Front Elevation.

CLIFTON PARK RACE STAND, BLACKPOOL. ARTHUR HINDLE, A.M.Inst.C.E.; ENGINEER.

IMPORTANT TO ARCHITECTS

You can get ahead AT ONCE WITHOUT DELAY by adopting Reinforced Concrete on the Kahn System

Because we have a good stock just now of all sections of our reinforcements and a highly expert staff of designers

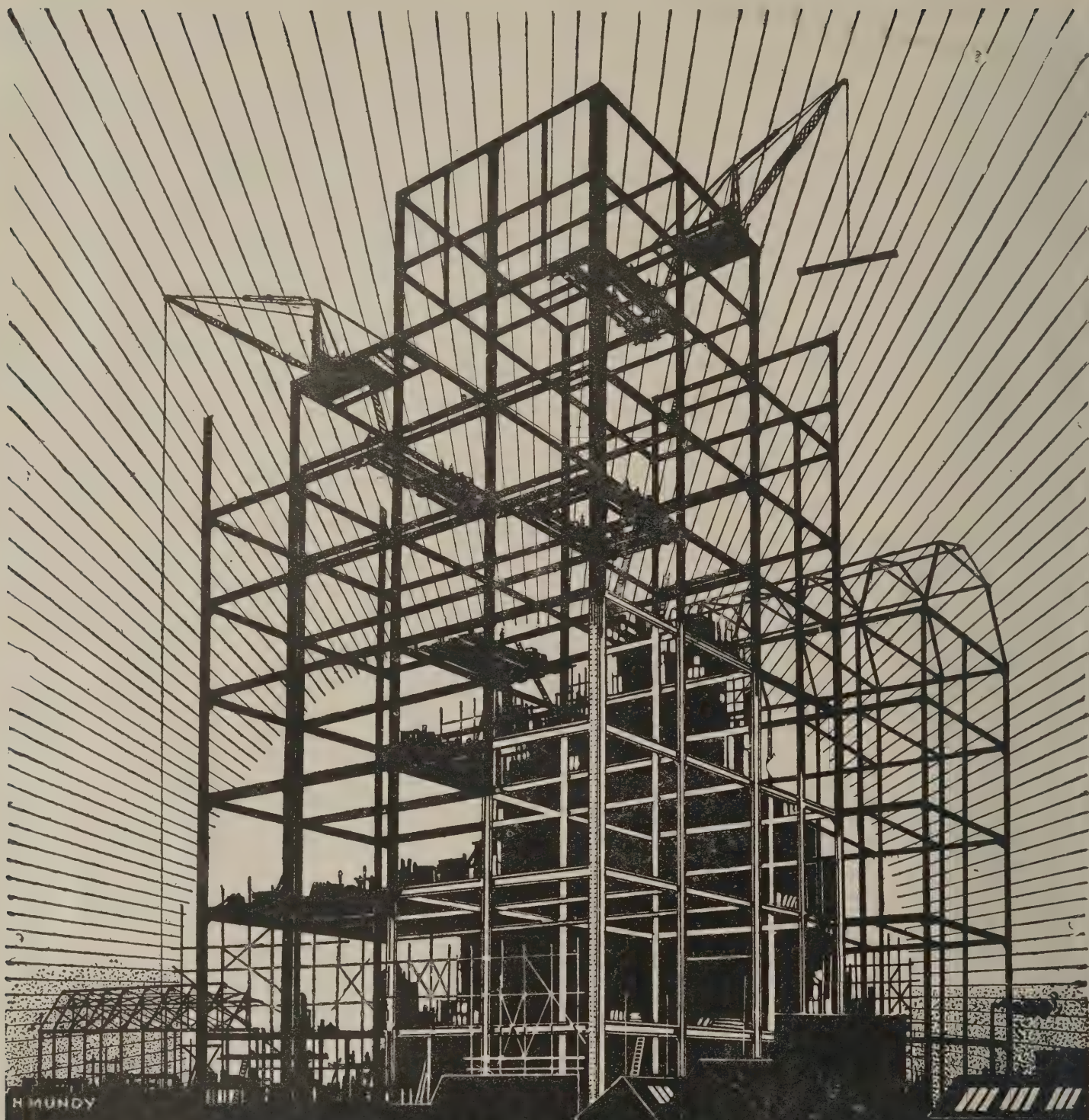
Therefore, write us to-day and we will explain what can be done with your building

The Kahn System of reinforcement is the most extensively used in the world :: ::

90% of modern multi-storey factories are being built to-day in Reinforced Concrete :: ::

THE
TRUSSED CONCRETE STEEL CO. LTD.
52 Truscon House, Cranley Gardens, South Kensington, S.W.7

Works: TRAFFORD PARK, MANCHESTER



REDPATH BROWN & Co. LTD.

CONSTRUCTIONAL ENGINEERS

WORKS AND STOCKYARDS

LONDON
Riverside Works,
East Greenwich S.E.

MANCHESTER
Trafford Park.

BIRMINGHAM
Office 47, Temple Row.

EDINBURGH
St. Andrew Steel Works.

NEWCASTLE-ON-TYNE
Milburn House.

GLASGOW
Pinkston.
Office 19 Waterloo St.

London City Office :- 3, LAURENCE POUNTNEY HILL E.C.4

rib bars and one ¾ in. Kahn trussed bar. Owing to the great length of the stand, expansion joints were provided, three of these dividing the structure into four separate parts. These joints are about ½ in. wide, and it will be seen that the beam and the slab are merely supported on the haunches at the connection with the columns, these haunches being reinforced with two rib bars to enable them to act as short cantilever brackets. No steel is, of course, allowed to cross the joint.

The cover at the top of the stand is designed with sufficient strength to allow it to be used by spectators if necessary, thus serving a double purpose. It is formed with a slab 4 in. thick, having a slope of 1 in. in 12 in., and is finished with cement and sand in equal parts applied before the concrete was set, no waterproofing material being required. A gutter is formed at the back next a 3 in. concrete wall, which is 16 in. high and forms a finish. The projection of the cover from the fulcrum beam is 10 ft. 6 in., while the length of the tailing-down portion is 12 ft. 6 in. The slab is reinforced with ⅜ in. rib bars at 8 in. centres, the alternate bars being bent up over the fulcrum beam for continuity, and temperature bars ⅜ in. diameter are provided at 2 ft. 6 in. centres. The fulcrum beams are 2 ft. 3 in. deep and 10 in. wide, reinforced with two 1 in. rib bars and two 1¾ in. trussed bars. These beams have a span of about 24 ft., and each one carries two cantilever beams, which are spaced at 8 ft. centres. These latter have a maximum depth of 24 in. next the fulcrum beam and a minimum depth at the extreme outer edge of 8 in., with a width of 10 in., the reinforcement consisting of one 1 in. rib bar and two ¾ in. rib bars in the lower surface, and one 1 in. rib bar and two ¾ in. trussed bars in the upper surface, the latter being continuous in the cantilever and tailing-down portion. Stirrups 1 in. by 1-16 in., are provided to connect two sets of reinforcement, one for each pair of bars.

This structure is an admirable example of design in reinforced concrete, material which is so obviously superior to timber for a race-stand that one can hardly conceive the latter material being adopted in the future for buildings of this kind. The maintenance required is practically nil, and strength is combined with the quality of being fire-proof.

The engineer for the work was Mr. Arthur Hindle, A.M.Inst.C.E., Blackpool, and the reinforced concrete was designed by the Trussed Concrete Steel Co., Ltd. The contractors were Messrs. J. Parkinson and Sons, Ltd., of Blackpool.

Enquiries Answered

Flooring for Machine Shop.

S. W. writes: "We have a large machine shop floor, measuring about 140 ft. long by about 40 ft. wide. This is now boarded with floor boards, but it has been in use a considerable number of years and is getting badly worn. The floor is subject to a good deal of traffic, trolleys, etc., being run over it the whole time. We might mention that the floor is supported by pitch-pine beams, and we have recently fitted a number of intermediate stanchions, which now make the floor very rigid. We are considering putting down a suitable floor covering. Can you favour us with the names of makers of suitable floorings?"

—If the stanchions and beams are strong enough to take additional load, the new floor could be formed by pugging with concrete and floating with 1½ to 2 in. of granolithic, or floating with cement and sand, and Messrs. Building Products (Columbia House, King's Road, Sloane Square, S.W.3) "Ferrolithic" floor hardener; failing this, any of the composition floors laid on boarding would be suitable, such as "Doloment," "Decolite," "Thermos," "Marbolith," "Terradura," etc. W. S. B.

"Luton Greys."

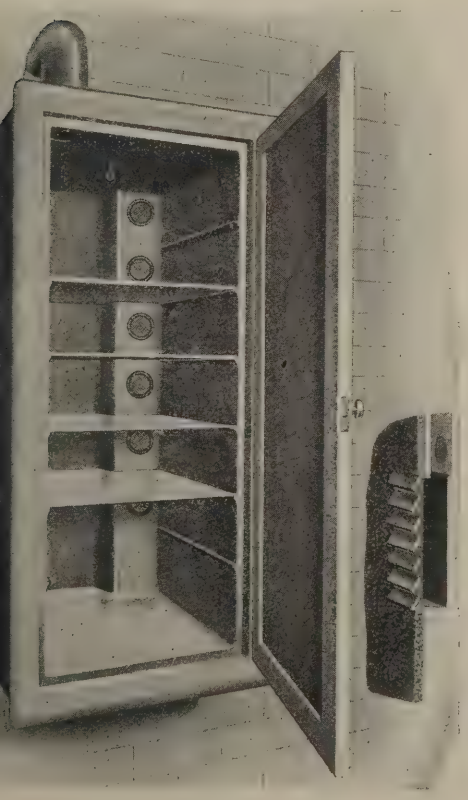
F. H. B. writes: "We should be much obliged if you would give us the names of the makers of bricks known as 'Luton Greys.'"

—Luton Greys can be obtained from Messrs. A. Eastaff and Co., 7a, Old Bedford-road, Luton. W. S. B.

Watson's "Fridge" Larder

This invention is designed to ensure food and milk being kept fresh in all seasons. The larder can be built into the outer wall, the front of it opening into pantry, scullery, or kitchen, as the case may be. It is built in one piece of enamelled ware, with a ventilating shaft, which conveys a constant current of fresh air through each compartment. The shelves are removable for cleaning and adjustment of spacing. The makers are Messrs. J. Duckett and Son, Ltd., sanitary ware works, Burnley, Lancs. Prices, according to size, can be had upon application.

In an age when economy both of labour and means must be borne in mind, and when large housing schemes are springing up in all parts of the country, this larder should meet a big demand. The neat, compact, and serviceable appearance of the larder is well shown in the adjoining illustration.



WATSON'S "FRIDGE" LARDER.

Mortar and a Profiteering Committee

W. Tagett, Ltd., builders' merchants, Hornsey Road, appealed from a decision of the Islington Profiteering Committee, who had ordered a refund in connection with a sale of mortar to Mark Stidston, builder, Hanley Road, Finsbury Park. The complaint was of a charge being made of 1s. 6d. per hod for lime mortar and 1s. 8d. per hod for lime and hair mortar. The local committee considered that 1s. 1½d. and 1s. 3d. were reasonable prices to charge, and ordered a refund of 4½d. and 5d. per hod. They also recommended a prosecution.

Judge Snagge said that the tribunal, having given careful attention to the evidence and arguments, considered that the accounts produced had been successfully challenged by the local committee in respect to several of the items; but it was not a case in which an innocent or ignorant purchaser figured, for both parties were connected with the building trade. The tribunal had come to the conclusion that the alleged inferiority of the material supplied had not been made out, and considering all the circumstances of the case they were of opinion that the appeal must be allowed.

Competitions Open

R.I.B.A. War Memorial.

Designs for a war memorial tablet for the R.I.B.A. Sending-in day, July 20.

War Memorial Halls, Sheffield.

Designs for war memorial halls for the City Council. Sending-in day, July 31.

War Memorial, Gloucester.

Design for archway or gates to the public park, as a war memorial, for the War Memorial Committee. Sending-in day, July 17. Members of the R.I.B.A. are advised not to take part in this competition until the conditions have been revised.

War Memorial, Woking.

Designs are invited by the War Memorial Committee for a war memorial to be erected in the public garden. Cost not to exceed £2,000. Premiums, 25 guineas, 15 guineas, and 10 guineas. Sending-in day, July 30. Further information from G. J. Wooldridge, Surveyor, Council Offices, Woking.

Lille Beautification Scheme.

The Mayor and Corporation of Lille (France) invite schemes for extending and beautifying the city. The entrance fee is 300 francs, and a sum of 128,000 francs is available for premiums. Further information from the Mayor. Schemes have to be sent in by October next.

War Memorial, Liège.

The province and town of Liège are to erect a monument commemorating the defence of Belgium against the German invader. A sum of 1,000,000 francs has been subscribed for the project. The design for the memorial will be decided by a competition open to architects and sculptors of Belgian nationality or subjects of Allied Powers. Conditions of competition may be obtained from M. Léon Maréchal, Bureau des Beaux-Arts, Hotel de Ville, Liège, Belgium. A map of the selected site will be sent on receipt of postal order for 5 francs.

The Week's News

(Continued from page 6)

Finsbury's War Memorial.

Finsbury's war memorial is to be a bronze figure 27 ft. high in Spa Green.

Bricks for Welwyn Garden City.

The Welwyn Garden City Company have started the manufacture of bricks on a large scale on their estate.

Gray's Monument to be Sold.

Gray's monument at Stoke Poges is included in the portions of the Stoke Park Estate to be offered for sale this month.

Architectural Students' Exhibition.

The Department of Architecture, Sheffield University, has held an exhibition of drawings recently executed by the students.

Church for the Deaf and Dumb.

The Royal Association for the Deaf and Dumb hope to build at once a church in North London, and also new buildings in the south-west district.

New Infirmary for Doncaster.

Doncaster has pledged itself to the building of a new infirmary on the Bawtry Road, about two miles out of the town. The cost is estimated at £30,000.

Architects' and Surveyors' Assistants' Professional Union.

The Union has now taken its own offices and in future all communications should be addressed to 30, Sanctuary House, 33, Tothill Street, Westminster, S.W.1.

Housing at Leicester.

It is estimated by the City Council that the capital sums required for housing and other local purposes will, during the financial year ending March 31 next, amount to not less than £1,000,000.

Kinema-Building Banned.

The Manchester Corporation have declined to sanction the erection of a new picture theatre on the site of the Mosley Hotel, or to extend the premises of another.

Memorial Lych Gate.

The memorial lych gate which is to be erected at Allendale in honour of the men of the parish who fell in the war is to be unveiled by Viscountess Allendale on Saturday, August 14.

£200 a House Saved.

Newbury's borough surveyor reports that municipal houses have been built by direct labour at a cost of just under £700 per house, which is nearly £200 less than the lowest contractor's quotation. The bricklayers laid an average of 620 bricks per day.

Worshipful Company of Plumbers.

At the Quarterly Court of the Worshipful Company, held at the Guildhall on Midsummer Day, the Countess Bathurst was admitted to the freedom and livery of the company by the Master, Mr. W. D. Caroe, M.A., F.R.I.B.A., in recognition of her father's (the late Lord Glenesk) long connection with the work of the company and her own interest in the housing questions of the day. Mr. E. T. Pearce, J.P., of "Four Oaks," Hatch End, Middlesex, has joined the Court.

Historic Castle for Sale.

Norham Castle, the ruins of which crown a rocky height by the Ubbanford Pass on the Tweed, is for sale. The first regular fortress was erected early in the twelfth century by Bishop Flambard, and it was later enlarged and strengthened.

Jamaican Cement.

The Jamaica Legislature has voted £1,000 in connection with experiments for the manufacture of cement in the colony by scientific officers of the Department of Agriculture. They have so far been successful, and material for the manufacture of cement has been located. It is proposed to carry out further tests.

King Edward's Gates for Holyrood.

The memorial to King Edward VII. at Holyrood Palace is to be surrounded by wrought-iron gates and screens, which are being made at South Lambeth under the direction of Mr. John Starkie Gardner, now in his seventieth year, and the author of numerous books on wrought-iron metal work.

New School at Rosyth.

Mr. R. H. Motion, architect, Dunfermline, has prepared plans for the new school at Rosyth, Fife. The total cost of the buildings will be £35,000. There are fourteen classrooms, and the structure is designed of two storeys, with gymnasium, sewing-room, etc., and heated throughout by radiators.

A Roman Outpost.

The old Roman remains at Caerwent, near Chepstow, have been scheduled by the Ancient Monuments Department of the Office of Works. This means that the antiquities may not be interfered with or in any way endangered without the sanction of the Ancient Monuments Department, whose work it is to preserve the historic relics of England.

Dissolution of Partnership.

The partnership between Messrs. Peacock and Bewlay and Mr. S. N. Cooke, Fellows of the R.I.B.A., 83, Colmore Row, Birmingham, has been dissolved. Messrs. Peacock and Bewlay will continue to practice as before at the above address, and Mr. Cooke, for the present, will also practice at 83, Colmore Row.

Government Architect's Salary.

In response to a question in the House of Commons, it was stated that Captain Mondham was appointed to the post of a superintending architect in the Ministry of Health on October 13, 1919. His salary was £500 per annum (inclusive of bonus), and when absent from the office he received travelling expenses and subsistence allowance on the usual Treasury scale.

Professional Classes War Relief.

The annual meeting of the Professional Classes War Relief Council was held on June 9. Although some departments of their work have been closed down, the Council are keeping on certain of their activities until next year at their new offices at 251, Brompton Road, S.W.3. The report for 1919 shows that over £6,000 was spent on education, the average number of families per term receiving assistance being 150. The training of young people for the professions was continued. New applications to the number of 566 were dealt with in the General Assistance Department.

The Empire Timber Exhibition.

Under the Ministry of Labour's scheme for training disabled sailors and soldiers men are to be seen working at their newly acquired trades at the above exhibition (Stand No. 6). Many well-trained men are at the disposal of architects, whose help, and that of builders and contractors, is necessary to the scheme if it is to be the success that all desire it to be. All who attend the exhibition should make a point of visiting Stand No. 6.

Devastated Areas.

A large number of architects from all parts of France are now attending the forty-fourth National Congress of Architects, which is being held at Lille. One of the principal features of the Congress will be the organisation of a series of tours through the devastated regions, in order that architects may be able to study at first hand the conditions and needs of the towns and villages which have to be wholly or partially rebuilt.

Private Buildings Licensing Scheme.

The rivalry between public and private builders has led Dr. Addison to consider what further steps are necessary to ensure an adequate supply of labour for the housing schemes sanctioned by his Department. To meet this difficulty Dr. Addison is now considering the introduction into a General Powers Bill of a provision that all private building or repair work must be carried on under licence from the local authority, such licence to be confirmed by the Ministry of Health.

Liverpool Architectural Exhibition.

A three-days' exhibition opened on Wednesday last week at the School of Architecture, University of Liverpool, of the students' work. Among the exhibits were the drawings of the three successful competitors for the Prix de Rome, which was recently carried off by Mr. F. O. Laurence, Mr. W. Dougall being second, and Mr. E. R. Arthur third. The remarkable fact that the three first men in this open competition are Liverpool-trained men makes it possible for their drawings to be included in the exhibition. Out of 150 architectural students the work of six has been chosen for exhibition, and one lady is numbered amongst these. The subjects set include designs for a national theatre, a school of architecture for a university, etc.

Subsidies to House Builders.
Extension of Period for Payment.

The Ministry of Health states: The Housing (Additional Powers) Act, of last year, which authorised grants to private persons building houses, lays down the condition that the houses must be begun within twelve months from the passing of the Act, viz., December 23, 1919, and completed within that period or such further period not exceeding four months, as the Minister of Health may in a special case allow. It is found that this period is not long enough for the erection of the houses which might otherwise be built under the stimulus of the subsidy, and the Government have decided to introduce legislation to extend the period for a further year. It is not proposed that the aggregate amount of £15,000,000 authorised by the Act for grants shall be increased.

3 Good Things

NO DECORATOR
SHOULD BE WITHOUT.

"Muraline"

THE PERFECT WATER PAINT IN 30 SHADES

SANITARY. ARTISTIC. DURABLE.

Sold in a Dry Powder in 2½, 5 and 7lb. Packets. Also in Kegs.

"Coverine"

THE CELEBRATED WHITE UNDERCOATING

One Coat transforms Black into White. Can be Second-coated in a few hours. - - Sold in 7lb. and 14lb. Tins and in Bulk.

"Velvarine"

THE PERFECT WHITE JAPAN

For Inside and Outside Work.
Does not Crack and Works Freely.
Sold in Quarts, Half and 1 gallon Tins.

CAN BE OBTAINED OF ALL BUILDERS' MERCHANTS.

Sole Manufacturers—

Walter Carson & Sons

BATTERSEA, LONDON, S.W.11.

Telegrams: "CARSON, BATTSQUARE, LONDON."
Telephone: BATTERSEA 1630 (2 lines).

BACHELORS' WALK,
DUBLIN.

CONTENTS.

Edited by PROFESSOR A. E. RICHARDSON, F.R.I.B.A.

Notes and Comments: "In Restraint of Trade"; The Late Mr. Temple Moore; Housing Bond Week; Lord Downham; Discovery of a Roman Road; Professional Problems in America; Mr. Punch's Stretchers 31-32

Stained Glass 32

Architectural Causerie: The King's Highway. By Aero 33

The Week's News 34, 55

The Late Mr. Temple Moore, F.R.I.B.A. 35

A New Departure in Architectural Education. By Lionel B. Budden, M.A., A.R.I.B.A. 36

The Empire Timber Exhibition: Opening Ceremony and Notice of Exhibits 43

Competition News 44

Weekly Housing Report 44

High Wycombe Summer School of Civics 44

Enquiries Answered 44

A New Method of Concrete Construction for Houses 49

Correspondence 50

Economical Kitchen Fittings ... 50

Societies and Institutions 53

Church Bells 53

"Combines" and Building Materials 54

Officials and Housing 54

The Shanghai Architect 54

Hartlepool War Memorial 54

Progress of Messrs. O'Brien, Thomas, and Co. 56

Trade and Craft 56

Coming Events 56

Current Prices of Materials... ... xvii.

Complete List of Contracts Open xx, xxii

ILLUSTRATIONS:

William Kent 29

Modern Ecclesiastical Architecture. 8.—St. Margaret's Church, Leeds: View from South Aisle. The Late Mr. Temple Moore, F.R.I.B.A., Architect 30

The Late Mr. Temple Moore, F.R.I.B.A. 35

St. Wilfred's, Harrogate; St. Margaret's, Leeds; All Saints', Tooting Graveney 35

Modern Ecclesiastical Architecture. 9.—St. Wilfred's Church, Harrogate: East End. The Late Mr. Temple Moore, F.R.I.B.A., Architect 37

Modern Domestic Architecture. 12.—The Dining Room, "Bayards," Steyning, Sussex. Lionel U. Grace, F.R.I.B.A., Architect 41

Modern Ecclesiastical Architecture. 10.—All Saints' Church, Tooting Graveney, London, S.W.: View from South East. The Late Mr. Temple Moore, F.R.I.B.A., Architect ... 46-47

New Method of Concrete House Construction. Framework in Course of Erection. Houses Completed Four Weeks After Start of Operations 49

Built-in Kitchen Fittings... ... 50

Furniture. 5.—Details of Well-arranged and Economical Kitchen Fitments 51

Hartlepool War Memorial. Designed by Philip B. Bennison, A.R.C.A. 54

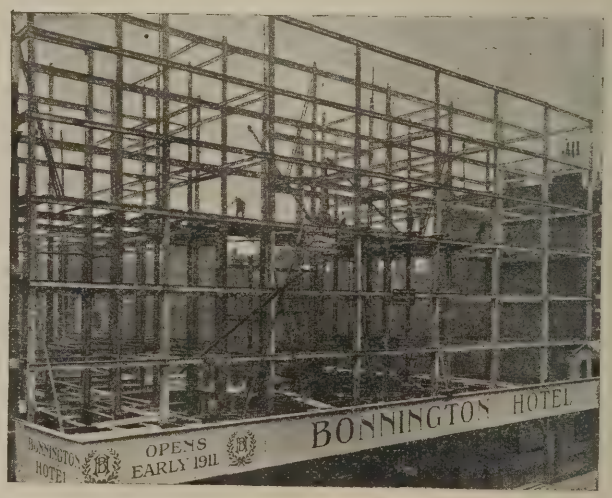
Design for Mantelpiece in Oak. By T. Millward Wilson, Licentiate, R.I.B.A. 56

DAWNAY DEFINITIONS—4.

SERVICE

SERVICE, as we offer it to you, means the closest attention to detail, rigid adherence to promised delivery dates, and all those things which when backed up by perfect material produce the perfect reason for you to send us your enquiries for constructional material.

STOCKS OF British Standard Sections in Joists, Channels, Angles, Tees, Flats, etc.



ARCHIBALD D. DAWNAY AND SONS, Limited.

Telephones: Battersea, 1094 (3 lines).

Steelworks Road, Battersea, S.W.11

Telegrams: "Dawnay, Battsquare, London."

Telephone: Cardiff, 2557.

And at East Moors, Cardiff.

Telegrams: "Dawnay, Cardiff."

Wednesday, July 14, 1920 Volume LII. No 1 332

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

WILLIAM KENT

William Kent was born at Rotherham, Yorkshire, in 1684, and began his career as an apprentice to a coach-painter. Coming to London early in the eighteenth century, he attracted the notice of certain wealthy men, through whose generosity he was enabled to travel in Italy. Becoming the protégé of Lord Burlington, he was soon the most fashionable architect of his day, and secured the appointment of Master Carpenter of His Majesty's Works. His most successful designs are, perhaps, the Horse Guards and Devonshire House, the latter shortly to be demolished.

27-29 Tothill Street, Westminster, S.W.1.

Modern Ecclesiastical Architecture. 8.—St. Margaret's Church, Leeds: View from South Aisle

The Late Temple Moore, F.R.I.B.A., Architect

An interior of great dignity and refinement in the late Mr. Temple Moore's very individual manner. The church is at present incomplete, the only portions erected being the east end, containing the choir, and the first two bays of the nave. Accommodation is provided for about 650 worshippers. The external facings are of red brick with dressings of Bramley Hall stone. This stone is also used throughout the interior, except for the roof, which is a groined wooden vault.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.
Wednesday, July 14, 1920 Volume LII. No. 1332

Notes and Comments

"In Restraint of Trade"

IS the G.P.O. demented? Apparently it is unable to foresee that an enormous increase in its rates can only result in a serious decrease in its revenue. The inability to make this simple deduction, however, is only stupidity; but when it is seen that the G.P.O. is oblivious that it is destroying the commercial facilities it was created to promote, and crippling the industries that have been induced to depend largely on its services, incompetency borders on imbecility. As a temporary expedient for reducing its volume of business, the increase in rates is explicable, but still inexcusable, for means ought to be promptly taken to cope with an increase of parcels that should be welcomed as denoting either actual expansion of trade or an effort to expand it. But the cause of the enormously increased rate does not concern us so much as its consequences, which are undoubtedly very serious indeed in their effect on the fluent circulation that is so essential to healthy trading. In this category we would include very specially books and magazines. There never was a time when the demand for technical information was so general. National prosperity depends more than ever on technical education, and books and periodicals are among the essential means of instruction. Yet the Post Office has taken most effectual steps to hinder and prevent the excellent services of which technical publications are capable, and which they alone can render. It would, in the long run, pay the State to carry such publications free of charge, because they promote hugely and effectively the productiveness of the industries, arts, and commerce, on whose prosperity and prolificacy national revenue depends. On this matter we do not speak with entire detachment, but we have therefore the greater right to be heard. We can supply from our own experience cases in point. That the postage on this Journal has been doubled—from a halfpenny to a penny—is bad enough; but the demand of ninepence postage on a single copy of the "Architectural Review" is simply extortionate. It is easy to understand that for magazines less firmly established than the "Review" this would be a crushing load. It is not as if these periodicals were of a character to suggest an appropriate imposition of the amusement tax. Both are of acknowledged utility, each in its own way, for the advancement of national efficiency, whether by promoting taste in the industrial and applied arts or by conveying instruction in the technics of the most extensive and most essential of our industries—building. In the case of the "Review," and of other monthly periodicals of about the same weight, the postal charge is so palpably monstrous and absurd that a revision of the tariff should ensue immediately on the statement of the case against it. To impose such ruinous rates on the circulation of eminently useful matter, at the very moment when the dissemination of technical information and the stimulation of the arts and crafts, are of unprecedented importance to the welfare of the country, is a stupidly short-sighted policy which should be immediately reversed before it results in irretrievable mischief. Greatly in restraint of trade also is the increased cost of letter postage; but that is an evil from which all traders and the general public suffer in common, though not in the same degree, and against which all should raise a most vehement protest. From a letter in the "Newspaper Owner" of July 10, we learn that "to fight the twopenny post, the further postal increases threatened for the autumn, and those the Government is to seek by arrangement with the other members of the Postal Union, a League of the Penny Post has been formed." Members pledge themselves to boycott the Post Office to the very utmost until the penny service is restored. One of their points is the hopelessness of expecting the prices of food and other commodities to come down so long as the increase of more than a hundred per cent. remains. As we have already said, the reactionary attitude of the G.P.O. is accentuating the evil conditions that it ought to strive its utmost to relieve.

Mr. Temple Moore

All architects and ecclesiologists will learn with deep regret of the death of Mr. Temple Moore. As articled pupil of the late Sir George Gilbert Scott, he might have been expected to develop strongly on the Gothic side; and indeed, at the time of his death, Temple Moore had done more church work than any contemporary architect. Much of it was commissioned for Yorkshire, where Church life is peculiarly vigorous, but Mr. Moore has designed some fine buildings for the more southerly districts. There is, for instance, his noble church at Tooting Graveney. At Oxford and Cambridge, also, he has left enduring memorials of his skill and scholarship in the mediæval mode; and he was architect to Rochester Cathedral. All his work, whatever its provenance—and he built a cathedral in far Nairobi—was distinguished not only for the consummate knowledge it revealed, but still more for that rare expression of individuality which respects and reflects the spirit of its models without stooping to copy their mere forms. Temple Moore's architecture was never tamely bookish, but was always sympathetic and vital, and his fine feeling for antiquity is beautifully manifested in his faithful but far from lifeless restorations at Hexham Abbey, Old Malton Priory, and elsewhere.

Housing Bond Week

For London, this is Housing Bond Week. July 12 to July 17 will see an organised concentrated effort to raise at least a million pounds towards the five millions required to meet London's need for houses. Five-and-twenty mayors of Metropolitan Borough Councils have issued a joint appeal in which they seek to awaken Londoners to a sense of citizenship. This should be no forlorn hope. Deep in their hearts glows fervently the

love of London, although they hate to express it sentimentally. This week they have a grand opportunity of expressing it in hard cash, and thereby showing their appreciation of the fact that they are citizens of no mean city, no matter in what sense the phrase is construed. Nathaniel Hawthorne, as Henry James has reminded us, brackets London side by side with Rome, not for beauty, but for cosmopolitanism. "If half the source of one's interest in it," says Henry James, "comes from feeling that it is the property, and even the home, of the human race, one's appreciation of it is really a large sympathy, a comprehensive love of humanity. . . The British capital, I have called it; which is but a way of saying that it is a stroke of luck for a particular country, that the capital of the human race happens to be British." The capital being thus regarded as common property may be a reason why Londoners in the mass show so little pride of possession. But now is their opportunity to cultivate the pride of ownership, and incidentally the pride of the host.

Lord Downham

It came as a surprise to many that Lord Downham had died at the comparatively early age of fifty-seven. His political life had begun so early—he entered Parliament as member for Fulham in 1885 at the age of twenty-two—and he had been so strenuous in it that he was generally credited with having travelled considerably beyond the prime of life, which he had barely passed when he died as the result of an operation. As Mr. Hayes Fisher he was a distinguished President of the Local Government Board, assuming that office in 1917, when he was at once confronted with the housing difficulty, which had then become acute. His attitude in the movement was that of establishing a sort of partnership between the State and the local authorities, and of freely enlisting the aid of private owners and private builders, as well as encouraging private utility societies. He resigned his Presidency of the L.G.B. in 1918, when he was created Lord Downham of Fulham, and in the same year he accepted the invitation to become chairman of the London County Council, where his attitude towards housing seemed to undergo a strange reversal.

Discovery of a Roman Road

Between Alton and Farnham, in Hampshire, some workmen while digging a manhole have come upon part of a Roman road. Probably this is part of the military way which the Romans constructed between London and Winchester. Its composition affords yet a further instance of the genius of the Romans for road construction. They built their roads for all time, and the small section that has just been discovered was so tough that drills and steel wedges had to be used for penetrating its surface. And yet the traffic it was intended to carry must have been quite light, compared with the tremendous loads that the modern road must bear. The construction of this particular road should be very carefully investigated. Modern roadmakers, at their wits' end to produce a road adequate to the requirements of the heavy motor traffic of to-day, might possibly derive a hint or two that might help them to solve this increasingly difficult problem.

Professional Problems in America

One touch of "problems" makes the whole profession kin. A list of his wants and difficulties that has been drawn up by a Post-War Committee on Architectural Practice appointed by the American Institute of Architects shows that our American cousin is asking himself the same questions that perplex the British architect. First, most formidable and most fundamental is: "What should be the function of the American Institute of Architects: (a) A national organisation of the Profession and a direct factor in economic and social life; or (b) A dignified Academy attainable only by a few, and dealing only with the ethics of the Profession?" We should be surprised if, in the Cradle of Democracy (we insist that its birthplace was on this side of the Atlantic) (a) did not kill (b) outright, more especially since (b) is so invidiously worded as to destroy any chance it might have had of capturing a single vote. For the "dignified Academy" notion is completely played out. As an American-Hibernian publicist has said, "In these strenuous times only a live institution can hope to live." And then, "attainable only by a few"!

Mr. Punch's Stretchers

Mr. Punch is never without his favourite butt. Just now he is persistently inciting Dog Toby to yap at the harmless necessary bricklayer. Of course, the bricklayer of Mr. Punch's aversion does not exist outside the pages of "Punch," where he is always depicted in the impossible get-up of an Early Victorian navvy. A picture in the current issue of our contemporary shows this archaic survival expostulating with a similarly mummified old dug-out of a labourer, to whom he exclaims: "There, that's what comes o' arguing along o' you; I've laid four bricks over me three hundred." Side-splitting humour! Scathing satire! But even funnier, and still more mordantly satirical is the wall that the ex-excavator is building. His bond is as good as his word. It is all stretchers. But what sort of brickwork could be expected from a prehistoric navvy, haunted by the consciousness that the bricklayers' union will probably behead him for his flagrant breach of the demarcation rules?

Stained Glass

At Painters' Hall, on July 9, a paper on the history of stained-glass technique was read by Mr. Maurice Drake, before an audience assembled by invitation of the Worshipful Company of Glaziers. Sir Harry Seymour Foster, Master of the Worshipful Company, occupied the chair, supported by the late Master, Wardens, and Court of the Company, and members of the General Council of the British Society of Master Glass-painters. The Chairman, introducing the lecturer, apologised for the unavoidable absence of the Right Hon. the Earl of Plymouth, President of the Society of Master Glass-painters, who had hoped to support the chair. Mr. Drake, whose paper was illustrated by lantern slides, traced the history of stained-glass technique from the early rise of simple outlining pigment, through the developments of the fourteenth century, to the abuse of enamels, which in the eighteenth century caused the downfall of the handicraft. Exhibiting a photograph of Tournou's *tour-de-force* at Angers, he suggested that the Worshipful Company might with propriety approach the French Government with a view to greater care being taken of so unique a masterpiece. He considered that legislative powers should be sought to classify English mediæval windows as objects of historic interest, with a view to their retention in this country. To prove the need for such legislation, he exhibited for comparison the three-quarter, thirteenth-century panel at the Victoria and Albert Museum, and the missing quarter of the panel which recently came to light in Lord Stafford's collection at Costessey, in Norfolk, and stated that there was every reason to fear that the quarter panel would be bought for America. The Chairman, moving a vote of thanks to the lecturer, stated that the Worshipful Company would certainly approach the French Government with regard to the care and preservation of the Angers panel. He was glad to take advantage of the occasion to welcome members of the British Society of Master Glass-painters, and hoped it would be only the first of many opportunities for co-operation between the ancient company and the new society.

Architectural Causerie: The King's Highway

WHO is not interested in the King's Highway? In our fathers' time, so all-absorbing was the railway, because of its comparative novelty and its incomparable celerity, that the road was neglected. It has come to its own again. Now everybody travels by road, and as a delightful consequence the old England we revere is opening up her jewelled cabinets and treasure-places. It is by such means as are afforded on the open road that we chief builders learn our lessons.

* * *

Prior to the coming of the Romans, the ancient trackways across Britain were of a very crude nature. Little did the Roman general dream, when he ordered the reshaping of these primitive tracks to the dignity of military roads, that he was deciding the basic partitioning of England—the highways that should endure for thousands of years. The Roman engineer had special methods for the construction of roads in the colonies. First, the way was roughly cleared, then two parallel trenches were formed in the desired direction, to a width approved by custom. The next step was to excavate the soil between the trenches, to ascertain the nature of the foundation and to make provision for filling up "pockets" with harder material. Having secured a comparatively level bottom, the engineer directed the laying of flat stones no larger than could be grasped by the hand. Over this primary layer was placed a bed of broken stone about eight or nine inches thick, set in a slurry of lime. Not content with this, the Roman road-maker added a third layer—averaging six inches in thickness—consisting of stones of various sizes, broken brick, pottery shards, and other substances, set in mortar. Finally came the paved finishing of large stones, roughly fitted, and grouted with mortar. On such a road the cohorts could march swiftly, the chariots could make good progress, and heavy baggage could be carried with ease.

* * *

A lot can be learned from the Romans, even in these days; and although architects are seldom called upon to construct roads, he would be but a purblind practitioner who would say that such affairs had no concern for him. When the Romans left England the roads were neglected and fell into decay. Grass covered the famous thoroughfares much as nature paints a neglected canal. For centuries the ancient roads of England were forgotten, or became merged in the rough packhorse tracks, such was the scarcity of vehicular traffic, and, under the somnolence of feudalism, the desire (or rather the absence of it) on the part of the peasantry for social intercourse. It is, indeed, surprising that Queen Elizabeth managed to tour her Dominions and to sleep under so many strange roofs; but then she was a queen, and her lieges were put to many charges for her comfort. The horseman who conveyed the news of Elizabeth's death to King James of Scotland made the journey in three days—a feat that without doubt owed more to the excellence of the horses and the urgency of the express than to the state of the roads.

* * *

The first half of the eighteenth century found the roads—north, east, south, and west—rutted with grooves, in places four feet deep, and thick with slime even in July. The same difficulties beset the traveller by road in France. We read of Sterne's journey to Paris, and of the adventures of young noblemen in charge of dissipated tutors, braving the dangers of the road for a glimpse of Rome. We scan the contemporary road-books of the Continent, and admire the enthusiasm that sustained these doughty amateurs. Without doubt we should all like to read of the adventures that befell Athenian Stuart in his salad days when he walked across France to Italy. Mr. Belloc's "Path to Rome" would appear merely commonplace compared to such an adventure.

* * *

In the third quarter of the eighteenth century the main roads of England were repaired and renovated, and at the same time a revival took place in France, due, without doubt, to military control. But the lasting improvement of French roads was brought about by Napoleon, who instituted the department of the Ponts et Chaussées. Previously in this country—to be precise, about the middle of the eighteenth century—there was established by law the turnpike system, whereby the roads were subdivided into short lengths of from fifteen to twenty miles, and were given in the charge of trustees, who were empowered to extract tolls for the maintenance of the surface. No small chagrin was expressed when this departure became law, and all toll-keepers came to be regarded much in the same light as the smuggling fraternity looked upon preventive officers. One practical result of the turnpike system was that new cross roads were projected and the repair of existing highways was undertaken. It is doubtful, however, whether at this juncture the art of road engineering was taken seriously or that the appointed surveyors did little more than cart stones and gravel to fill in the deep grooves scarring the crowns of the track.

* * *

If we accept the name of Inigo Jones as the father of modern English architecture, then we must credit John Metcalfe with the paternity of road improvement in this country during the first half of the eighteenth century. It had been a practice in the eighteenth century to indulge in roads of excessive convexity; evidently the idea was to rid the surface of rainwater. This idea, however, did not work in practice, as excessive barrelling was a fundamental mistake, tending to concentrate wheeled traffic in the centre of the highway, with the result that deep ruts occurred. At this time it was not customary to specify a prepared foundation, the principle being to repair the damage of iron-shod rims by merely filling in the holes. As a result, within a few months the road presented in places the spectacle of two irregular canals, and the excessive crowning was not infrequently the cause of carriages overturning.

* * *

When James Loudon Macadam was called upon, scarcely more than a century ago, to superintend the roads near Bristol, this Scot, whose name has been incorporated in our language, determined to introduce a rational method of road construction. Macadam's method included the fundamental principle of breaking stones to a standard size in order to allow of their unity and adhesion into an interlocking mosaic capable of withstanding the pressure of moving weights; for the doughty Macadam thought, very correctly, that angular stones fitted together would not creep like rounded stones, which lost resistance by attrition, and did not produce consolidation of surface. Macadam determined upon a thin uniform layer of stones broken to a uniform size to pass a 2 in. mesh, placed upon a level foundation, with only such crowning as would guarantee the ready carrying off of surface water into the side channels. Macadam's chief work consisted in the reconstruction of old roads. Even to-day it is customary to speak of macadamised roads, and to associate the name of the engineer with the treatment of the material rather than with the designer.

(To be concluded.)

The Week's News

Model House Contract

A model building contract has now been evolved as a result of a joint conference between the Ministry of Health and representatives of the Co-operative Wholesale Society and the Building Guild, Limited.

Partnership Dissolved

The partnership between Mr. R. Naseby Adams, A.R.I.B.A., and Mr. Ernest Emerson, A.R.I.B.A., having been dissolved, Mr. Adams is practising at 25, Ryder Street, St. James's, S.W.1.

Architectural Partnership

Mr. Geoffrey C. Wilson, A.R.I.B.A., has joined the firm of Messrs. Bourchier, Tatchell, and Galsworthy, of 25, Queen Anne's Gate, Westminster. The title of the firm will remain unchanged for the present.

Housing Conference Dinner

The Inter-Allied Housing Conference, which has been visiting various housing schemes around London and in other parts of the country, met at dinner at the Connaught Rooms on Thursday evening prior to the departure of the delegates on Saturday.

Furness Abbey

Barrow Corporation has received an intimation that his Majesty's Commissioners of Works have expressed a desire to obtain control of the famous Furness Abbey ruins as an ancient monument of national importance. Extensive repairs are contemplated.

The R.I.B.A. and Schools of Architecture

The Council of the R.I.B.A. has resolved to grant to the School of Architecture of the University of Liverpool and the Architectural Association the right to qualify their students for practice, students who obtain a degree or diploma being exempt from all other Institute examinations.

Noted Mansion Sold

£59,200 has been realised for the freehold of No. 20, St. James's Square, London, S.W. The mansion is a notable example of the work of the Adam Brothers, dating from 1772, and many of the ceilings are by Angelica Kaufmann and Zucci. It is probable that the buildings will be used as a club or for business premises. The ground area is about 8,000 sq. ft.

1,000 Houses for Scunthorpe

The Scunthorpe and Frodingham U.D.C. has decided to apply to the Ministry of Health for sanction to borrow £16,586 for the purchase of land in Crosby, for the erection of about one thousand houses. Messrs. Brocklesby and Marchment of London have been appointed architects. The Council has decided to interview Professor Abercrombie to obtain further information on town planning.

Bishop Ryle and the "Architects' Journal"

We are greatly honoured and gratified to receive the following letter from Bishop Ryle, Dean of Westminster:

"Dear Sir,—Allow me to send you an informal line of most sincere thanks for the admirable and helpful article in your number of the 7th inst. Its information is excellent, and its tone of sympathy with our cause most welcome. I could not help writing to say what I felt."

Memorial to London Troops

The Memorial to the London Troops which is being erected outside the Royal Exchange, from the designs of Sir Aston Webb, P.R.A., as architect, and Mr. Alfred Drury, R.A., as sculptor, will be ready for unveiling within the next three or four months. A model was previously made of the monument, together with the whole site and front of the Exchange itself, and every effort has been taken to ensure that the monument shall not interfere with the architectural effect of the Exchange.

Manchester Town Planning Scheme

Manchester Town Planning Committee have decided to proceed with the town planning scheme for the northern side of the city, and plans are being prepared by the City Surveyor. Plans for the southern scheme await the approval of the Ministry of Health. The cost is estimated at several million pounds. Alderman Turnbull, the chairman, referring to a suggestion that 12, instead of the proposed 16, houses should be built to the acre, and expressed the opinion that such action would prevent speculative building of working-class houses, in that builders would prefer to erect semi-detached villas.

Ulster Society of Architects' Exhibition

The annual exhibition of drawings, under the auspices of the Ulster Society of Architects, was held at the Belfast Municipal Gallery. In one of the rooms there is a fine collection of prize drawings, lent by the R.I.B.A., and a second room is occupied by designs and drawings executed by members of the Ulster Society. Mr. T. W. Henry, President, presided at the opening ceremony, and said that the prize drawings represented the cream of the work of the British School of Architecture, which at the present day occupied a premier position among the architectural schools of the world.

Subsidies to House Builders

The Ministry of Health announces that the Housing (Additional Powers) Act of last year, which authorised grants to private persons building houses, lays down the condition that the houses must be begun within twelve months from the passing of the Act, viz., December 23, 1919, and completed within that period, or such further period not exceeding four months as the Minister of Health may in a special case allow. It is found that this period is not long enough for the erection of the houses which might otherwise be built under the stimulus of the subsidy, and the Government have decided to introduce legislation to extend the period for a further year. It is not proposed that the aggregate amount of £15,000,000 authorised by the Act for grants shall be increased.

Society of Architects' Personalia

Mr. A. J. Murgatroyd (Member of Council), of Manchester, has been elected a member of the Practice Committee of the Manchester Society of Architects. Mr. J. M. Dick Peddie (Member), of Edinburgh, has been elected to represent the Edinburgh Architectural Association on the Council of the Institute of Scottish Architects for the Session, 1920-21. At the tenth annual meeting of the Association of Transvaal Architects, the following members were elected officers for the current year:—Mr. D. M. Sinclair, president; Mr. J. S. Donaldson, vice-president; Members of Council, Messrs. D. M. Burton, M.R.San.Inst.; M. J. Harris, R. Howden, H. G. Veale and Allen Wilson. Mr. L. Sylvester Sullivan, Member of Council, has been elected a Member of the Council of the Architectural Association. Sir Ambrose Poynter, Bt. (Member), and Mr. G. H. Wenyon (Member of Council), are engaged on the construction of a large number of flats which are to contain many novel labour-saving devices, and which will eventually be let on a 99 year lease.

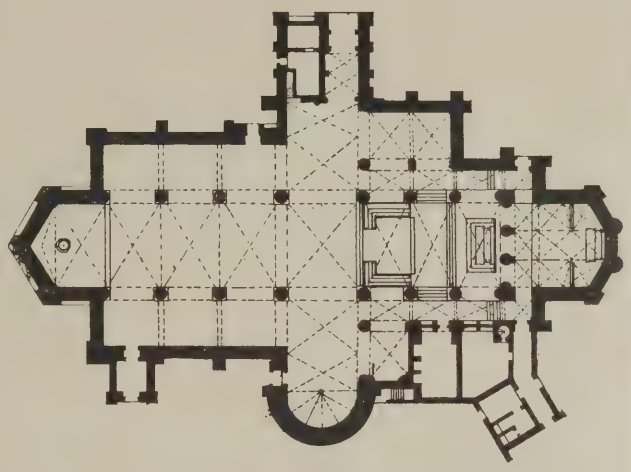
(Continued on page 55.)

The Late Mr. Temple Moore, F.R.I.B.A.

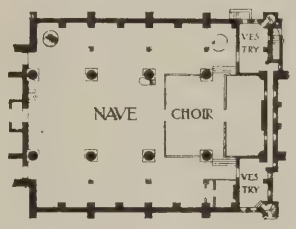
WE regret to announce that Mr. Temple Moore, F.R.I.B.A., the eminent ecclesiastical architect, died suddenly at his home at Hampstead, on June 30th. Mr. Temple Moore, who was actually designing a few hours before his death, came of a military stock, being the elder son of the late Major-General G. F. Moore, but before he had learnt to write his talent showed itself, when as a child he was constantly sketching, using pencil and india rubber at the age of three—and in after years the faculty of drawing with his left hand as easily as his right was extraordinary.

Churches were an early subject of interest. By many capable of judging, he was regarded the most truly inspired church architect of our day. He was articled in 1875, to the late Mr. G. Gilbert Scott, who afterwards employed him as his assistant architect and successor. Of a studious nature, quiet and reserved, full of love, and helping everybody with his knowledge of architecture and the allied arts, he was so sincere and thorough in his work, that he would get out his own working drawings, giving himself endless trouble to make the smallest detail harmonious. He also educated a school of pupils, amongst whom may be mentioned Mr. Gilbert Scott, A.R.A.

Mr. Temple Moore was a great believer in the Catholic faith and tradition of the church, travelling much in France, Italy and the British Isles, and making hundreds of sketches of mediæval churches. He was a man who lived for his profession: sketching and measuring old work were his recreations. He has been known to tramp many miles to visit some ancient church to study special features. Gifted with a prodigious memory, he would quote with accuracy measurements and details of various parts of churches that he had not seen for many years. Mr. Temple Moore's sympathetic knowledge of the past found full scope in the preservation of an ancient building, in which he especially excelled. It was wonderful how he would keep the correct feeling, and seemed to be able to inspire those working with him and for him with the mediæval spirit.

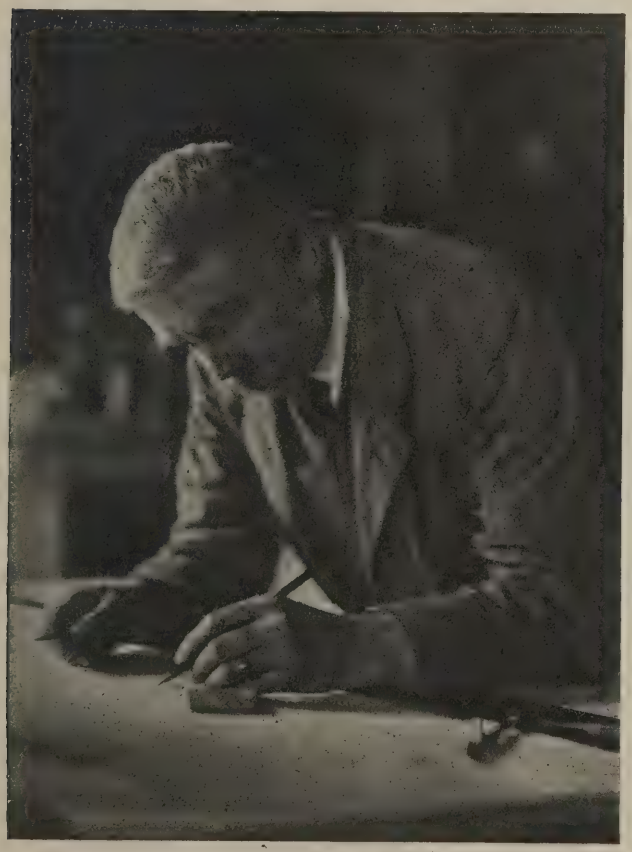


ST. WILFRED'S, HARROGATE.



ST. MARGARET'S, LEEDS.

ALL SAINTS', TOOTING GRAVENEY.



THE LATE MR. TEMPLE MOORE, F.R.I.B.A.

Amongst the most interesting examples of such work are St. William's College, York, and Yaxley Church, Hunts. Of the most beautiful characteristic examples of his original work may be mentioned St. Wilfred's Church, Harrogate, the Pusey House, Oxford, St. Peter's Church, Barnsley, St. Mary's Sledmere, and a hundred other new churches and additions which will remain a lasting memorial of his greatness. Of All Saints', Tooting Graveney, which many consider his finest work, a fine illustration appears on the double-page plate in this issue. In recent years he was assisted by his son—Richard Temple Moore (drowned in S.S. Leinster), and his partner, Mr. Leslie Moore, F.R.I.B.A., by whom he wished the honoured tradition of his practice to be carried on.

A New Departure in Architectural Education

By LIONEL B. BUDDEN, M.A., A.R.I.B.A.

THE Royal Institute of British Architects has at last committed itself to an important and decisive measure of reform in architectural education. A step has been taken toward bringing the profession into line with the best educated and most efficiently organised of all British professions, the medical body. For the Institute's retiring Council, at a meeting on June 21, passed, by a large majority, the following resolution:—

The Council of the Royal Institute will, subject to proper safeguards, recognise for exemption from its Final Examination (with the exception of that portion of the Examination which deals with Professional Practice) such Schools as have set up a five years' Diploma or Degree Course which the Council can approve, provided that, in judging all designs submitted for the Diploma or Degree, there be two External Examiners, approved by the Council, with power of veto.

A Measure of Reform.

Those who have been pleading for an enlightened policy in architectural education are justified in claiming this decision as the direct reward, the first fruits, of their efforts. It is a decision that was ultimately inevitable; the sheer pressure of facts would sooner or later have forced it to be taken; but that it should have been adopted now rather than at some future time may fairly be attributed to the successful propaganda conducted by those members of the Institute who realised the actual position. For, beyond question, the Institute's method of "controlling" the qualifying stage of professional training very urgently needed to be reformed. In the days when the schools were weak, when their equipment was slight, their courses short, and when they had comparatively few students, the rigidly centralised examinations of the Institute—though necessarily ineffectual as tests of competence—might have been defended on the ground that they were temporary expedients designed to bridge over a gap in educational development. But once the schools were able to undertake the work of undergraduate training comprehensively and completely, and were, in effect, doing it in the case of hundreds of candidates for admission to the profession, then the centralised examinational system of the Institute became too anomalous. Unmodified, it ceased, under the new conditions, to have even the most illusory basis in reason or equity. Its perpetuation was producing an intolerable state of affairs, and was leading to results profoundly damaging to the prestige of the profession. Some measure of reform was essential. This the Council of the Institute finally had the good sense to appreciate. Their action, though it does not solve the whole problem, goes a long way towards doing so, and represents by far the most important advance which the Institute has yet made in educational policy.

High Qualifying Standard Necessary

Clearly there are two main conditions upon which the Council must insist if it is to secure real reform in the education of the profession. It must, through its Board of Architectural Education, see that a high qualifying standard is invariably maintained as an absolute minimum in all cases. And it must, by delegating responsibility to the competent teaching authorities of such schools as can be recognised for the purpose, decentralise the conduct of the qualifying tests, so that those tests may be *informed* examinations—that is, examinations which take into account the candidates' performance in detail, as evidenced by their work and as known to their instructors, throughout the whole of a long course of study.*

Both these objects are sought in the resolution passed by the Council on June 21. The first, the safeguarding of the interests of the Institute, is secured by the provision that, in the final examinations of those Schools whose graduates will in future be exempted from practically the whole of the R.I.B.A. Final, *there be two external examiners in Designs, approved by the Institute, with power of veto.* (One of the examiners will, of course, be required to act as external for all the other subjects.) As an additional precaution, the Board of Architectural Education has recommended that there be an obligatory exhibition at the Institute each year of a specified number of drawings representing all the current graduate work of the recognised schools. A comparative estimate of the standards maintained in studio-work in the several schools can thus be made by the Board of Architectural Education; and if any school appears to be failing to maintain a sufficiently high standard the Board may, in the last resort, recommend its temporary or permanent suspension as a qualifying agent of the Institute. Assuming that the Board will in the near future be re-constituted in such a manner that the recognised schools are always adequately represented on it—so that, in fact, the danger of its being dominated by certain London interests is permanently removed—this method of appraising some of the work done in the studios of the schools should work with tolerable fairness. But an obviously better and altogether more thorough system would be that adopted by the General Medical Council, which sends commissions of "Visitors," selected from a national, not a metropolitan, panel to examine and report on the whole of the work of the Medical Faculties. In the meantime, the Board's machinery for securing the same end may, one hopes, within its limitations, function reasonably and carry us through the present phase of development in professional education. Certainly something very much worse might easily have been devised.

Decentralisation of Examinations

The second of what should be the Council's objects the decentralisation of the Institute's examinational machinery on certain conditions, is provided for by the Council's resolution of June 21 as a whole and forms the substance of it.

Already two schools have been approved by the Council of the Institute as having established courses which will in future justify their graduates in being exempted from examination in all subjects in the Institute's Final, except Professional Practice. Of these two schools—the Liverpool University School of Architecture and the Architectural Association School—the Liverpool School was in the field first. Its new five-year Degree and Diploma Courses (developments of previously existing ones) were established some months ago; and it was on the initiative of the Liverpool School that the Board of Architectural

* Such examinations, it is perhaps scarcely necessary to point out, must be very different affairs from the centralised tests of the Institute, in which candidates' abilities can only be guessed at by examiners exercising an uninformed judgment upon fragments of arbitrarily prescribed work produced under abnormal, and, in the case of the Testimonies of Study, unknown circumstances.

Modern Ecclesiastical Architecture. 9.—St. Wilfred's Church, Harrogate: East End

The late Temple Moore, F.R.I.B.A., Architect

This church was consecrated in 1914, and is a notable example of the late Mr. Temple Moore's most recent work. The unusual but extremely clever planning of the building may be seen from the small plan reproduced on page 35. The interior as shown in the above illustration is incomplete, the eastern chapel having yet to be added. Externally the church (which stands on an elevated site) is faced with stonework, and has a tiled roof.

UNIVERSITY OF ILLINOIS LIBRARY

AUG 12 1920

Education, after a careful scrutiny of these courses, unanimously recommended the Council of the Institute to grant the exemption now sanctioned.*

An abstract of the Ordinances and Regulations by which the new Degree and Diploma Courses in Architecture are governed in the University of Liverpool will serve to indicate their nature:—

Ordinance XXVII.

1. The Degree of Bachelor of Architecture is conferred either as an Ordinary Degree or as a Degree with Honours in Architectural Design or with Honours in Architectural Construction.

2. All candidates for the Degree of Bachelor of Architecture are required to have passed the Matriculation examination,† and, thereafter, to have attended approved courses of study. The entire course of study shall extend over not less than five academic years, except as provided in Clause 4.

3. There are five examinations and reviews of work for the Degree of Bachelor of Architecture:

The First Examination.
The Second Examination.
The Third Examination.
The Fourth Examination.
The Final Examination.

The First and Second Examinations may not be taken before the ends of the first and second years of University study respectively, except as provided in Clause 4; the Third, Fourth, and Final Examinations may not be taken before the ends of the third, fourth, and fifth years of University study respectively.

4. Graduates of approved Universities and other matriculated candidates who, in the opinion of the Board of Studies in Architecture and Civic Design are qualified by previous work and training, may be excused the first and second year's study and examinations, but are required to take, together with the Third Examination, one or more papers of the First and Second Examination, as the Board may in each case determine.

5. The degree of Bachelor of Architecture may be given with (a) Honours in Architectural Design, (b) Honours in Architectural Construction, on the result of the Fourth and Fifth Examinations considered together.

6. Candidates during their fourth and fifth year may be permitted to spend the third term of each session in practical work under approved conditions.

7. Regulations determine:
- (a) The attendance and course of study required of candidates.
- (b) The subjects of examination and their relative values.
- (c) The fees to be paid by candidates.

Regulations.

1. Subjects of the first year's course of study and of the First Examination with the following relative values attached:
- (a) Studio work in:
  - (i.) Elements of Architectural Construction ... 5
  - (ii.) Elements of Architectural Form 5
- (b) Elements of Architectural Construction 3
- (c) History of Architecture 3
- (d) Physics and Mechanics 1
- (e) Geology 1
- (f) Descriptive Geometry and Sciagraphy 1
- (g) Presentative Technique and Rendering 1
- (h) Elements of Architectural Form 1

2. Subjects of the second year's course of study and of the Second Examination, with the following relative values attached:
- (a) Studio work in:
  - (i.) Elementary Architectural Design 5
  - (ii.) Architectural Construction 5
- (b) Architectural Construction 3
- (c) History of Architecture 3
- (d) Symbolism in Classic Architecture 1
- (e) Theory of Architectural Planning 1
- (f) Perspective 1
- (g) (Optional subject) Drawing *or* Modelling 1

3. Subjects of the third year's course of study and of the Third Examination, with the following relative values attached:
- (a) Studio work in:
  - (i.) Architectural Design 5
  - (ii.) Architectural Construction 5
- (b) Mechanics of Architectural Construction 2
- (c) Sanitation and Hygiene 1
- (d) Laboratory demonstrations in strength of Materials 1
- (e) Theory of Architectural Design 1
- (f) (Optional subject) Drawing from Life *or* Modelling 1

4. Subjects of the fourth year's course of study and of the Fourth Examination, with the following relative values attached:

(i.) *For those taking the Ordinary Degree—*
- (a) Studio work in:
  - (i.) Advanced Architectural Design 5
  - (ii.) Preparation of Working Drawings 5
- (b) Advanced Architectural Construction 2
- (c) Decoration and Furniture *or* History of Ancient Art 1

(ii.) *For those taking the Degree with Honours in Architectural Design—*
- (a) Studio work in:
  - (i.) Advanced Architectural Design 10
  - (ii.) Preparation of Working Drawings 5
- (b) Advanced Architectural Construction 2
- (c) Decoration and Furniture *or* History of Ancient Art 2
- (d) Advanced Architectural Programmes 2

(iii.) *For those taking the Degree with Honours in Architectural Construction—*
- (a) Studio work in:
  - (i.) Advanced Architectural Design 5
  - (ii.) Preparation of Working Drawings 10
- (b) Advanced Architectural Construction 3
- (c) Architectural Construction in Reinforced Concrete 2
- (d) Decoration and Furniture *or* History of Ancient Art 1

Candidates desiring to take the Degree with Honours in Architectural Construction must, before entering upon their fourth year of study, satisfy the Board of Studies in Architecture and Civic Design as to their competence in Mathematics.

5. Subjects of the fifth year's course of study and of the Final Examination, with the following relative values attached:

(i.) *For those taking the Ordinary Degree—*
- (a) Studio work in:
  - (i.) Advanced Architectural Design 5
  - (ii.) Advanced Architectural Construction 5
- (b) Specifications, Estimates, and Contracts 1
- (c) Professional Practice 1
- (d) Thesis, showing advanced and individual work in one of the following subjects:
  - (1) Historical Architecture; the work to be based on the study of actual buildings.
  - (2) Theory of Architectural Design.
  - (3) Science as applied to Architectural Construction; a special study of an application of Science to definite problems of Architectural Construction.
  - (4) Architectural Design, including Decoration; a study in Civic, Monumental, Decorative, or other branch of Architectural Design.

The subject proposed by the candidate for his thesis must be submitted for the approval of the Board of Studies in Architecture and Civic Design not later than the first day of February and the thesis presented not later than the first day of June preceding the examination. All theses offered in subjects (3) and (4) must be accompanied by a set of drawings.

(ii.) *For those taking the Degree with Honours in Architectural Design—*
- (a) Studio work in:
  - (i.) Advanced Architectural Design 10
  - (ii.) Advanced Architectural Construction 5
- (b) Civic Architecture and Landscape Design 3
- (c) Specifications, Estimates, and Contracts 1
- (d) Professional Practice 1
- (e) Theses, as specified under Regulation 5 (i.) (d) (2) or 5 (i.) (d) (4) and subject to the same conditions 10

(iii.) *For those taking the Degree with Honours in Architectural Construction—*
- (a) Studio work in:
  - (i.) Advanced Architectural Design 5
  - (ii.) Advanced Architectural Construction 10

* On the first occasion on which the Board's recommendation regarding the Liverpool School came before the Council, it was decided to defer consideration of the subject to the next meeting. At the next meeting, on June 21, the general principle of exemption was approved, but no specific application was made to Council for it to be put into effect. The third meeting had before it the original proposal regarding the Liverpool School, and a similar one concerning the A.A. School, which had in the meantime prepared a scheme for a new Diploma Course. Both proposals were then agreed to by the Council.

†All candidates who desire to take a course in the school, whether for the Degree or the Diploma, are required to pass an Entrance Examination in Drawing and Geometry. Matriculated candidates or those who have passed an examination of equivalent value, and who also pass the entrance tests of the school in Drawing and Geometry, are exempted from the Preliminary Examination of the Royal Institute.

(b) Specifications, Estimates, and Contracts 2
(c) Quantity Surveying 2
(d) Professional Practice 1
(e) Theses, as specified under Regulation 5 (i.) (d) (3) and subject to the same conditions 10

6. The minimum attendance required of candidates in each term is twenty-five hours a week.

7. Students in the School of Architecture are not permitted to take the Certificate or Diploma courses in the Department of Civic Design until they have passed the Third Examination in Architecture.

8. The fees for the first, second, and third year's courses of study shall be £30 in each case, and for the fourth and fifth year's courses of study £20 in each case. The fees for the examinations shall be £1 in each case.

Ordinance XXVIII.

1. The University awards a Diploma in Architecture to candidates who take the Degree Course and pass the five examinations of that course, but who have not passed the Matriculation examination.

2. Candidates who, in the opinion of the Board of Studies in Architecture, are qualified by previous work and training, may be excused the first and second year's study and examinations, but shall be required to take, together with the Third Examination, one or more papers of the First and Second Examinations as the Board may in each case determine.

3. The regulations governing the five years' courses of study for the degree of B.Arch. apply to and govern the courses for the Diploma in Architecture.

4. The Diploma in Architecture may be given with (a) Distinction in Architectural Design, (b) Distinction in Architectural Construction, on the results of the Fourth and Final Examinations of the Degree in Honours considered together.

5. The University awards a Certificate in Architecture to candidates for the Degree or Diploma in Architecture who take the first three years of the Degree Course, and who pass the First, Second, and Third Examinations.

6. The exceptions specified under Ordinance XXVIII., 2, apply also to the Certificate.

7. The regulations governing the first three years for the Degree of B.Arch. apply to and govern the course for the Certificate in Architecture.*

The system of numerical "values" attached to the subjects in the above curricula may first require some explanation. These "values" have been adopted as a simple practical expedient for differentiating between the relative importance of the subjects themselves at all stages of the courses in which they occur. It will be seen, therefore, that, throughout both the Degree and Diploma Courses, whether at the Ordinary pass level or with Honours or Distinctions, studio-work is of maximum importance, so that not merely the student's performance in examinations, but his output of work in the studio each year, is taken into account, is reviewed and estimated as the most considerable portion of the evidence upon which the question of his competence must be judged. That this principle should be followed is entirely reasonable, for it is in his studio-work that there ought to appear manifest the knowledge the student has acquired in nearly all the other subjects related to the practice of architecture. It is the work on the drawing-boards which in the last resort counts and should count most.

Functions of an Architect

Implicit in the courses of the Liverpool University School, and in reality determining them, are certain ideas which it may be useful to state.

Any reasonable scheme of architectural education must be based on a clear conception of the proper functions of an architect. Those functions are threefold. The architect must be expert in programme—that is, in planning in all its aspects; he must understand and be able to apply the principles of scientific construction; and finally he must know how to synthesise plan and structure in an æsthetic whole. So much should form the indispensable qualifications of the average practitioner in architecture; and so much the Liverpool University School, in so far as such knowledge can be acquired through systematic study, sets out to teach in its Ordinary Degree and Diploma courses. But the complex nature of modern architectural practice, the elaborate developments in programme and in methods of construction, the multiplicity of sources from which the elements of design are now drawn, inevitably involve much specialisation in practice. To meet the demands of this state of affairs, the Honours courses in Construction and in Design are devised. For all students the courses for the first three of the five years are identical; but in the fourth and fifth years (of which only six months in each year need be spent in the school), those students who wish to specialise in either Design or Construction may, provided they are competent to do so, concentrate upon one or other aspect of architecture, following special curricula for the purpose.

The Medical Parallel

Both the Ordinary and the Honours courses aim at doing for the architect what the analogous courses in medicine do for the doctor; they aim at turning him out fit to practice. With that end in view, they go considerably further than any course of training that might have been set up simply to enable candidates to pass the present final examination of the Institute. They do not trust to the student acquiring a half-knowledge of professional procedure through the haphazard experience of office-life; they give that procedure to him consistently and completely formulated. Construction is taught on a scientific basis, and its importance is stressed without relaxation at every stage of the courses. The Theory of Design (including Programme) is given the place in the teaching of the school which it should—as it does in the Beaux-Arts—occupy in an institution professing a system of logical instruction in architecture.

Under the regulations governing the old Liverpool Degree course in architecture, almost the whole of the first year, and of the examination at the end of that year, was devoted to "general" subjects. One ancient or one modern language, one scientific subject, ancient or modern history, mathematics, and the History of Architecture comprised the selection. Only after the successful passing of the examination at the conclusion of the first year did the student concentrate on an architectural course properly speaking. Now all that is superseded by a purely technical course, experience having shown that the change was indispensable to a satisfactory scheme of training. The ground to be covered in architectural as in medical education is too great for one year out of five to be given up almost entirely to studies having no direct relation to the main object.

A purely technical course, such as is now established in Liverpool, is most fittingly designated by a technical degree. The title, Bachelor of Architecture—which is given by nearly all American Universities—stands, like Bachelor of Engineering, of Laws, or of Medicine, unequivocally for what it means. To obscure an architectural qualification under such titles as B.A. or B.Sc. is to lose its identity; and that is certainly unfortunate and unnecessary. Architecture is a subject sufficiently important and special to justify a separate title. The degree of B.Arch. should be as standard a qualification in Great Britain as it is in the States. That there would be no difficulty in making it so is proved by the rapidity with which the degree of Bachelor of Engineering—B.Eng.—has become established in recent years. Under the stimulus of the examples now set by the Liverpool University and the A.A. Schools of Architecture, the other academic schools may be relied upon to extend and elaborate their courses so as to justify the same concessions being extended to them by the Institute. Then will be the time for such schools to affix to their new courses the technical degree of B.Arch — a degree regularising and distinguishing the character of the education of which it is at once the assurance and the symbol.

* A First-Class Certificate carries with it exemption from the R.I.B.A. Intermediate Examination.

Steyning, Sussex

Lionel U. Grace, F.R.I.B.A., Architect

This room forms part of some interesting additions made by Mr. Lionel Grace to a small early-Victorian house. The late-eighteenth-century model has been followed throughout, the detail being in the Adam manner. The walls are painted grey, and the furniture and fittings are carried out in mahogany. Messrs. Lynn, of Brighton, were the contractors.

UNIVERSITY OF ILLINOIS LIBRARY

AUG 12 1920

The Empire Timber Exhibition: Opening Ceremony and Notice of Exhibits

THE Empire Timber Exhibition, now being held at the Holland Park Skating Rink in connection with the conference in London this week of afforestation experts from all parts of the Empire, was opened on Monday by Prince Arthur of Connaught.

Among those present were Mr. A. Keen, vice-president of the R.I.B.A., and Sir Charles Ruthen, vice-president of the Society of Architects.

Opening Ceremony

Presiding at a lunch given to the delegates and visitors previous to the opening ceremony, Mr. F. G. Kellaway, M.P., said that that was the first time an exhibition of the timber grown in the various parts of the Empire had been brought together in one building. The collection proved that it was unnecessary, in order to obtain the timber required for any civilised State, to go outside the boundaries of Empire. The only obstacles in the way of its full utilisation were transport and accessibility, and these could be got over to a very great degree once the Empire realised the immensity of its resources.

Mr. Kellaway urged the necessity for a commission for the re-afforestation of the denuded hillsides which had given up their timber during the war. He was glad to hear from Lord Lovat that attempts were being made to deal with the re-afforestation of the country, and that last year 1,508 acres were planted. That, however, was only a beginning, and it would be a disgrace to the country if the hillsides which had given up their wealth during the war were not replanted.

Importance of Re-afforestation

Lord Selborne, proposing the toast of "The Press," emphasised the immense importance of developing the growth of timber. Those who ran papers knew that there was a likelihood of a shortage of timber for the world's consumption. The war had taught the necessity for self-reliance in the Empire, and the immense importance of having a reserve of timber in the United Kingdom. Timber, although a crop, was not one that could be realised in a year or even ten years. Trees planted now could not be cut for another fifty years. Before the war the value of the annual consumption of timber in this country was thirty-five millions sterling, and of this 90 per cent. was imported. English and Scottish forestry required to be remodelled and reorganised so as to meet our present needs. Their data as to cost, etc., were based on pre-war figures; therefore they wanted most careful examination and inquiry into present circumstances, and that was why they required forestry authorities from every part of the Empire to give their views. If merchants gave the specifications they wanted their timber grown to, it would be the growers' fault if they did not supply what they wanted. Timber must be grown in the form that people wanted it, and the growers must organise. Architects and builders should realise that a great deal of the timber that they obtained from abroad could be grown in England.

Colonel Courthope, M.P., on behalf of the Advisory Committee, asked Prince Arthur to open the exhibition. In the course of a few introductory remarks, he said that many timbers of great beauty and commercial value were shown for the first time. Some of them, indeed, were so little known that they had no names except in the local vernacular or the Latin.

Prince Arthur of Connaught said he felt certain that the home-grown exhibits would astonish those who did not realise the quality and variety of timber which could be produced in the British Isles. A thriving trade in timber would be the best inducement towards the restoration of our woods in the British Isles and the conservation of our forests in all parts of the Empire. The British Empire Forestry Conference, whose members he welcomed there, represented in a remarkably comprehensive manner the forestry interests of every portion of our vast Empire, and their presence and the outcome of their deliberations should ensure the realisation of his confident hope that the exhibition would serve a great and useful purpose. The exhibition will be open till July 17.

Scope of Exhibition

Though it is hardly probable that these islands will ever be able to draw the whole of their timber supplies from within the Empire, there can be no doubt that there are very numerous woods of great commercial value in our oversea possessions which might well be utilised by home consumers. It is the immediate object of the Overseas Trade Department in promoting this exhibition to bring to the notice of the British public the timber wealth of India and the Colonies, and the unique display the department has so carefully arranged and brought together is one on which we offer our congratulations to the officials responsible.

The exhibition should prove of the greatest value to the architect who desires to acquire first-hand knowledge of the many kinds of colonial timbers of which he very possibly knows next to nothing.

Not only will he find here a wide range of very fine woods of a quite unfamiliar character, but examples of their commercial application to everyday needs in the shape of joinery, panelling, and furniture. And should he require to be informed from an independent source of their strength and durability, the officials in charge of the Cambridge School of Forestry exhibit will furnish him with valuable and authoritative data.

Indian Woods

No fewer than seventeen British possessions are represented at the exhibition, which also includes timber products from the United Kingdom. Of these exhibits the most comprehensive is that of the Indian Empire, whose timber supplies are almost unlimited. Conspicuous among the numerous beautiful specimens to be seen at this stand are Indian black walnut, laurel, silver greywood, gurjan, and padouk. The constructional possibilities of the latter are well shown in a finely-wrought stairway with a balustraded gallery above, the red tone of which is exceedingly rich. This wood is obtainable at an appreciably less cost than Honduras mahogany. Gurjan is of a mellow golden-brown colour and possesses an elusive aromatic scent. It is much used for panelling and flooring, for which its hard, firm, and close texture is admirably suited, and can be procured at a little less than half the cost of teak.

The exhibit of the Canadian Government is full of interest and includes ready-made doors of fine figure and excellent quality, constructed of Douglas fir, which, though somewhat lighter in weight than pitch-pine, may be considered as its constructional equivalent. Built-up columns of hollow section and about 8 ft. high—also of Douglas fir—are shown at this stand. These, complete with caps and bases, are shipped to home ports at about 30s. each.

In the Trinidad Section is to be seen a specimen of "Watercare" timber, which can be employed in all situations where green-heart is ordinarily used, at about half the cost. It is stated to be capable of withstanding an even greater driving strain than greenheart and to be equally durable under water. The timber is obtainable in lengths up to 30 ft., squaring twelve to sixteen inches.

An exhibit of great interest is that showing several of the actual oak members—riddled by the death-watch beetle—from the roof of Westminster Hall, of which also there is a very fine sectional model illustrating its construction.

The Training College of the Carpenters' Company sends a variety of models executed by the students, of wooden domes, a mansard roof, cupolas, a trestle bridge, a lych gate, and a particularly good scale model of the roof of Crosby Hall.

Joinery in course of construction by ex-Service men may be seen at the stand of the Ministry of Labour, which has created a special department for providing training facilities for disabled men who on account of their disability are unable to return to their pre-war occupations.

A Valuable Catalogue

It is hardly possible to say too much in praise of the wholly admirable catalogue which the organisers of the exhibition have prepared. Not only is it a guide to the exhibits, but a most useful work of reference to all interested in timber. Hundreds of woods are alphabetically arranged according to their botanical names, and each reference contains authentic information concerning such important matters as the characteristics of the timber, its habitat, physical properties, and the ports to which it is shipped. Other lists give the shippers from the country of origin, importers into the United Kingdom, and publications dealing with Colonial timber, while a copious index, besides affording ready access to the detailed information, is so compiled as to set forth in parallel columns the trade name and botanical name of every kind of wood described in the book and shown in the exhibition.

Competitions News

R.I.B.A. War Memorial.

Designs for a war memorial tablet for the R.I.B.A. Sending-in day, July 20.

War Memorial Halls, Sheffield.

Designs for war memorial halls for the City Council. Sending-in day, July 31.

War Memorial, Gloucester.

Design for archway or gates to the public park, as a war memorial, for the War Memorial Committee. Sending-in day, July 17. Members of the R.I.B.A. are advised not to take part in this competition until the conditions have been revised.

War Memorial, Woking.

Designs are invited by the War Memorial Committee for a war memorial to be erected in the public garden. Cost not to exceed £2,000. Premiums, 25 guineas, 15 guineas, and 10 guineas. Sending-in day, July 30. Further information from G. J. Wooldridge, Surveyor, Council Offices, Woking.

Lille Beautification Scheme.

The Mayor and Corporation of Lille (France) invite schemes for extending and beautifying the city. The entrance fee is 300 francs, and a sum of 128,000 francs is available for premiums. Further information from the Mayor. Schemes have to be sent in by October next.

War Memorial, Liège.

The province and town of Liège are to erect a monument commemorating the defence of Belgium against the German invader. A sum of 1,000,000 francs has been subscribed for the project. The design for the memorial will be decided by a competition open to architects and sculptors of Belgian nationality or subjects of Allied Powers. Conditions of competition may be obtained from M. Léon Maréchal, Bureau des Beaux-Arts, Hotel de Ville, Liège, Belgium. A map of the selected site will be sent on receipt of postal order for 5 francs.

Houghton-le-Spring Secondary School.

The assessor, Mr. F. Willey, F.R.I.B.A., has made the following awards in the competition for a secondary school at Houghton-le-Spring: First, Messrs. R. S. Phillips and R. V. Taylor, Hucclecote, near Gloucester; second, Messrs. J. Wilson Hays and Geo. H. Gray, North Shields and Wingate; third, Mr. W. Naseby Adams, 2c, Ryder Street, St. James's, S.W.1; highly commended, Mr. F. Quentery Farner, 1, Melbourne Street, Stalybridge; commended, Messrs. Stockwell, Wilkinson, Cremer, and Woodgate, Stone House, The Quarries, Boughton, Monchelsea, near Maidstone, Kent.

With regard to the design placed first, the assessor, in his report, states: "The authors suggest a light standardised structure framed with steel and timber sections, which may rest on a light concrete foundation reinforced as a precaution against the effects of subsidence. The external walls are specified with an external covering 2 in. thick of cement set on metallic lathing, and on the inner side of the cavity lined with asbestos sheeting. The caretaker's house and certain portions of the buildings are of brickwork. The sloping roofs are tiles. The flat roofs are thin reinforced concrete, covered with asphalte. The author considers the effective life of the structure to be at least forty years and the period of its erection as twelve months.

"The position on the site for the buildings is carefully chosen. The general arrangement of the buildings is good. The school is well lighted and well ventilated. The classrooms are away from the high road and gain the whole of the morning sun. There is a singular charm in this design; the buildings are open to the sun and air; there is ease and freedom in the planning, the construction is simple, and the care for the appearance of the building promises well for the finished product."

Weekly Housing Report

New housing schemes submitted to the Ministry during the week ended July 3 numbered 90, bringing the total number of schemes submitted to 10,610, comprising about 71,500 acres. The schemes approved now number 7,044 and comprise about 51,300 acres.

One hundred lay-out schemes were submitted and 80 approved during the week, bringing the total number of lay-outs submitted to 5,125 and the number approved to 4,527.

House plans representing 3,308 houses were submitted, and plans for 3,446 houses approved. The total number of houses represented in all the plans now submitted is 229,828, and in the plans approved 215,788.

During the week tenders were submitted for 3,258 houses. Tenders for 4,192 were approved, bringing the total number of houses in tenders submitted to 136,599, and in tenders approved to 123,420. Contracts have been signed for some 63,100 houses. The houses for which tenders have been approved during the week include the first instalment (1,200) of those to be erected by the London County Council at Dagenham.

At June, 25 certificates had been issued by local authorities approving plans for 11,500 subsidy houses, involving a grant of about 2¾ millions. Grants amounting to £43,362 have been paid for 216 houses completed, and the local authorities have certified that 111 more are finished.

High Wycombe Summer School of Civics

A summer school of civics is to be held in High Wycombe from July 31 to August 14. The programme of courses and lectures is a full and interesting one, designed to give the students of the school an all-round knowledge of social life, present-day social problems, and the solutions of these. Particular attention is given to the needs of teachers of civics in continuation schools and elsewhere, and of social workers in health and educational movements. Other courses of special interest are those on reconstruction which will deal both with principles of reconstruction and with specific proposals in the field of industry, finance, etc. Among the lecturers will be such well-known authorities as Dr. Eric Pritchard, Miss Margaret Macmillan, Mr. Wilfred Buckley, Miss Norah March, and Dr. F. H. Haywood. High Wycombe is an interesting centre of civic life, and full opportunities will be given for the first-hand study of this by means of visits to factories, institutions, and places of interest in the town and district. Full particulars may be had from the Secretary, Summer School of Civics, Leplay House, 65, Belgrave-road, London, S.W.1.

Enquiries Answered

Non-Poisonous Paints.

M. and M. write: "With reference to your article 'Non-Poisonous Paints' (page 794 of your June 23 issue), we shall be glad if you will advise us as to the names of, say, half-a-dozen well-known firms manufacturing the non-poisonous paints recommended in the Government report. There are so many paints in the market that it is very difficult in ordinary practice thoroughly to prove and test any particular brand."

—Zinc paints may be obtained from almost all first-class paint manufacturers but it is very necessary to specify whether the paint is to be zinc oxide or zinc sulphide, commonly known as lithopone. The former would be used for outside work, in which case 20 per cent. of the thinners should consist of pale varnish. For interior work the latter is eminently suitable, but it is no good for outside work.

All the following firms can be relied upon for supplying a genuine article, provided the kind of paint wanted is exactly known: Mander Bros., Wolverhampton; Gittings, Hills and Boothby, Ltd., Long Acre, Birmingham; Morley Bros. and Phostan, Birmingham; Wilkinson, Heywood and Clark, Poplar, E.; Goodlass Wall and Co., Ltd., Seel Street, Liverpool. A. S. J.

The Norton Tube Well.

A. and H. write: "We should be greatly obliged if you would furnish us with the address of the manufacturers of the 'Norton Tube Well.'"

—The manufacturers of the Norton Tube Well are Messrs. Le Grand and Sutcliffe, 125, Bunhill Row, London, E.C. W. S. B.

Waterproofing Concrete Roof.

C. K. H. writes: "It is proposed to erect a one-storey building, and at some future date to add another storey; in the meantime the floor of the second storey will have to act as roof. This is of 6 in reinforced concrete, and must be perfectly drop dry owing to the machinery the building would hold. I should be glad if you could tell me of any successful method of ensuring such a waterproof concrete roof. The super-area is approximately 1,262 sq. yds. and expansion and contraction will surely have to be guarded against."

—The concrete flat can be rendered watertight by treating it with an "Ironite" and cement slurry mixed in the proportion of 25 lb. Ironite to 75 lb. of Portland cement. A cement skirting should be formed round the parapet wall also treated with the slurry. Alternatively but more costly, the concrete could be covered with two ⅜ in. layers of Seyssel asphalte with 6 in. skirting to parapet walls; this would then form the finished floor when new storey is added.

It would be advisable to form expansion joints adjoining the walls by inserting a narrow greased board at back of the chase in the brickwork, removing same before concrete has set, and filling in with sand before building the parapet wall. The steel reinforcement, if properly designed should prevent the cracking of the concrete to any appreciable extent. W. S. B.

[Our correspondent should also communicate with Messrs. Kerner-Greenwood and Co., Ltd., Ann's Place, King's Lynn, whose well-known waterproofing powder, "Pudlo," would be admirably adapted to the purpose indicated.—EDS. A.J.]

UNIVERSITY OF ILLINOIS LIBRARY

AUG 12 1920

Modern Ecclesiastical Architecture.
London, S.W.
The Late Templ

All Saints', Tooting Graveney, is unquestionably one of the very fine
Mr. Temple Moore do not hesitate to class it as his *chef d'œuvre*.
there is a refreshing note of individuality. The church consists of
choir is 130 ft., and the height to the crown of the wooden groin
slender columns of grey Forest of Dean and Quarella stone, moul
transept and vestries connect the south aisle of the choir with the vicara

ll Saints' Church, Tooting Graveney, rom South-East

R.I.B.A., Architect

ings erected within modern times, and many of the admirers of the late ernally the scale of the building is remarkably fine, and about the detail seven bays, with a Lady Chapel beyond. The length of the nave and The nave arcade is flanked on either side by double aisles, divided by nement. The tower makes a fifth bay to the north aisle, and an organ e cost £23,000. Messrs. S. Sherwin and Son, of Boston, were the builders.

UNIVERSITY OF ILLINOIS LIBRARY

AUG 12 1920

A New Method of Concrete Construction for Houses

OVER forty contractors, from London and the provinces, were present at a meeting held at the Hotel Victoria, Northumberland Avenue, on Thursday last, for the purposes of having put before them details of "an entirely new and far-reaching system of house construction known as the Parkinson-Kahn system," and for discussing means that would enable the carrying out of housing schemes in accordance with this new system. During the conference, the members were entertained to lunch by Mr. M. Kahn.

Mr. Kahn, in putting before them his report, said that drastic speeding up of housing, coupled with economical construction, was the pressing problem that now stared everyone in the face. Houses were wanted, not by the dozen, but by the thousand upon thousand, and they were wanted at once. The demand was so great that it was essential that different classes of building material should be used in their construction. There would not be an immediate sufficiency of timber, bricks, stone, or structural steel if the construction were confined to any one of these materials. Nor would there be a sufficiency of any one type of labour. For this reason alone the Ministry of Health would welcome the advent of the reinforced concrete house. Probably no other method of construction needed so little skilled labour. The natural materials required were, in the main, procurable in all localities to an unlimited extent, whilst the manufactured materials, such as cement and reinforcing steel, were used in a minimum degree. As an illustration, a building erected with a structural steel frame or skeleton required at least 100 per cent. more steel than a similar building erected with a reinforced concrete frame or skeleton. There was no gainsaying that the urgency of the situation demanded the use of steel frame houses, and no less did it demand the use of a reinforced concrete frame house. Quite apart from these conditions, however, the question of economy was of vital importance, and when it came to cost, reinforced concrete, as adopted in this new system of construction, stood in a class to itself. Furthermore, it resulted in a building that was fireproof, rot-proof, vermin-proof, and damp-proof.

HOUSES COMPLETED FOUR WEEKS AFTER START OF OPERATIONS.

Numerous attempts had been made to solve the problem of constructing concrete houses. We had the concrete block-house, the ordinary poured-concrete house, and the house wherein concrete was used in combination with other materials. Messrs. Parkinson had evolved a method of building reinforced concrete houses which was not only unique but extremely simple to carry out, and probably the cheapest form of house construction. It was quite true that a certain number of skilled men were required to construct a house even on this new principle, but the number was reduced to a minimum.

The speed with which these houses could be constructed, said Mr. Kahn, was almost humorous. The main skeleton could be erected in a few hours; the complete building was ready for occupation within a few weeks after starting operations. He then proceeded to give a detailed explanation of the system of construction. At the yard of the contractor a few moulds are made in which a series of standardised reinforced concrete members are cast. Several sections are made for a great number of houses, and are stocked in the yard until they became matured. They are made of a size and weight convenient for handling without the use of heavy tackle.

Having accepted a contract to build a certain number of houses, the contractor despatches to the site a sufficient number of sections for the work and prepares the site for the building. The skeleton is erected in a few hours, and, it is claimed, four weeks afterwards the tenant can move in. The method of construction allows for the elimination of the centering that is required in the ordinary reinforced concrete work, and this is a feature which produces the saving, the cost being considerably cheaper than the ordinary brick and timber house of similar dimensions. The Ministry of Health have officially approved of this type of construction.

Mr. Kahn went on to say that with their heavy commitments Messrs. Parkinson could not undertake any further contracts. It was, therefore, proposed that arrangements should be made with other contractors for the construction of these houses in their respective districts, and the necessary assistance would be given to these other contractors in return for a small premium payable on every house constructed on the Parkinson-Kahn system. He thought a premium of £2 for every house so erected would be only fair. It was proposed to allocate different districts to different contractors. In relatively small cities only one contractor would be appointed, but in large important territories there might be two or three contractors. Messrs. Parkinson did not wish to create a monopoly, but also they did not desire any competition.

After lunch the conference again met, when it was agreed upon that an association should be formed. Mr. Kahn said it

FRAMEWORK IN COURSE OF ERECTION.

would probably be constituted of fifty contractors, who would adopt this method of construction, although it would not debar the adoption of any other system of construction they might wish

Questions were invited and responded to. Mr. Kahn pointed out that not only was the Parkinson-Kahn system cheaper than building with brick, but he emphasised the fact that owing to present-day shortage of both bricks and bricklayers many contractors were idle owing to their inability to adopt any other form.

Correspondence

The Federated Builders Code

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I notice in your issue of June 30 that "A Committee of the Society of Architects, which has under consideration the whole question of a form of building contract, is in negotiation with the National Federation of the Building Trades Employers in regard to the proposed National Building Code." This sectional method of dealing with this vital question—in my view the most vital question the profession has ever had to deal with—is entirely wrong.

I am reminded of this once more by reading Mr. T. Sumner Smith's articles on this subject. It is diametrically opposite to his suggestion—"It (the code) should be subjected to extremely careful examination, clause by clause, and it will only be after competently conducted debates (in all the large centres) that all the possible bearings of the Code's provisions can be understood."

The Society of Architects represent but a small fraction of the practising architects, and even if they acted in unison with the R.I.B.A. and A.A. on this subject, there are still a large number of unattached practising architects who have as much right as they to a voice in the drafting and agreement of a Code. And whilst we are about it why should not the Code be made to embrace the architect and the quantity surveyor? The architect's and the quantity surveyor's position to-day is a very insecure one—terms of engagement are but vaguely defined. We certainly stand greatly in need of a combination where our common interests are concerned.

As a provincial architect, I wish to point out that our problems are somewhat different from those of the metropolitan architects, and the problems of a country architect are again different from those of a town architect. All these differences should be accommodated in the Code, but I doubt whether a solution is possible by metropolitan ideas alone. Therefore I throw out the suggestion to the Federated Builders: Let them call a series of meetings in their respective regional areas, inviting all practising architects and quantity surveyors in each area. At these meetings the Code could then be explained in detail and a record of the opinions and objections taken. These could afterwards be formulated and sifted by a committee representing all interests, and tabulated with those from the other areas. Then a small committee should be elected from the whole country from representatives of each area finally to draft the Code. We ought by this means to get a Code acceptable to all, and one which would safeguard the interests of each and all. This is the spirit of co-operation we sadly miss.

"UNATTACHED ARCHITECT."

Chester.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Mr. T. Sumner Smith, in your issue of July 7, rightly asked which fees I referred to that I thought were adequate for work that quantity surveyors would be called upon to perform under the Code. I must admit that it was news to me that there are numerous scales of fees issued by the various institutions and associations for this work. The general practice—at least as far as architects are concerned—is to charge 2½ per cent. for this work and invariably to share the fees—less than more—with the quantity surveyor.

Mr. Smith might also have mentioned that builders, in accordance with their rules, charge 2½ per cent. on their estimates where quantities are not supplied.

I feel confident that surveyors generally would welcome the opportunity of preparing the bills of quantities in accordance with the Code for the same fees that architects now get for this work, as architects will have to forgo these fees under the Code.

The Code will certainly meet with opposition from them on this account. No doubt the federated builders were fully aware of this when they drafted their Code and had very good reasons for doing so.

If the present scale of fees for architectural work is inadequate, then it should be up to the architects to demand such fees as will recompense them for their work; but, certainly, it does not seem straightforward and honourable of them to increase their earnings at the expense of the quantity surveyor. "Builder," in your issue of June 30, put the case clearly from their point of view with regard to quantities emanating from architects.

Mr. Smith certainly makes his articles very interesting by giving a review of the relations between the architect, surveyor, builder, and employer when stating the objections of architects and surveyors to the Code. These relations require restating again and again, as it is only by so doing that we shall get a proper focus of their respective positions and come to an understanding and a workable arrangement. I gather from reading his articles that he does not regard the difficulties as insurmountable, with which I am in agreement. But he requires two undertakings from the federated builders as a basis for a working arrangement. This is, in my opinion, very essential, and, lest they are lost sight of, I crave your indulgence to repeat them:

(1) "That builders shall not contract for any works of greater value than £1,000 unless a bona-fide practising architect has been engaged to prepare the plans and superintend the works."

(2) "That builders shall not contract for any works of greater value than £1,000 unless the bills of quantities have been prepared by a bona-fide practising quantity surveyor."

If the federated builders would give these undertakings, then opposition from professional men, I feel sure, would vanish. The objections in general could be overcome in re-drafting. But why should the Code not be made broad enough to take in all? JEROME.

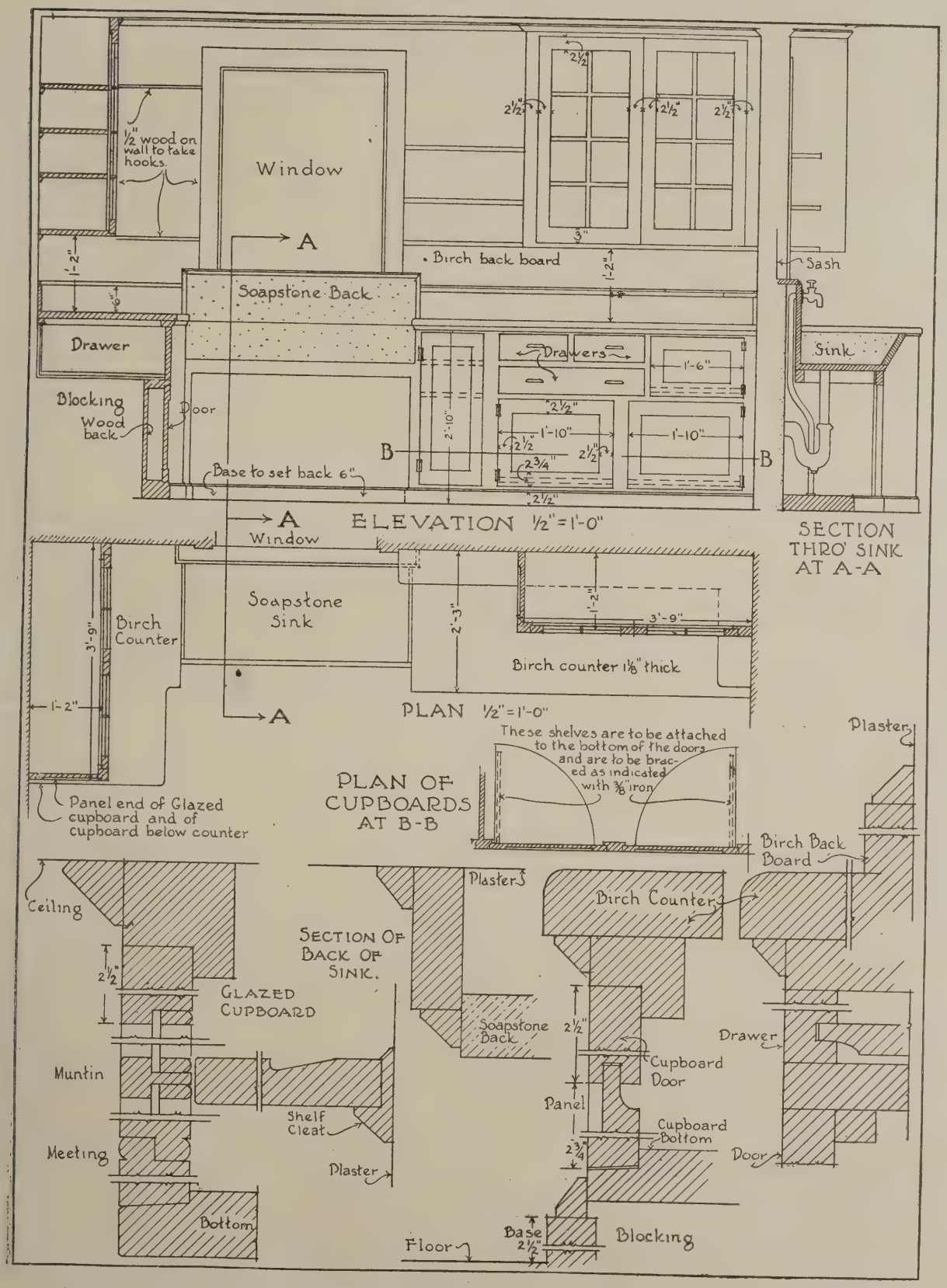
Economical Kitchen Fittings

The built-in counters and cupboards illustrated are very compactly arranged. At the left of the sink is a shallow cupboard for dishpans, and the space under the sink is open, which makes it easy to clean around the pipes. The back of the sink is set out 2 in. from the wall, so the supply pipes are within the room yet unexposed. Note that the window stool finishes on the top of the sink back, thereby avoiding a pocket between the back of the sink and the sash.

The upper cupboards run up to the ceiling, having no top to collect dust, and when the doors of the lower cupboards are opened the shelves which are fastened to the doors are brought out into full view and are easily reached. The top of the counter is of stained birch, and the rest of the work may be painted cream, pale grey, or buff.—The "Builders' Journal of U.S.A."

BUILT-IN KITCHEN FITTINGS.

Furniture. 5.—Details of Well-arranged and Economical Kitchen Fitments



These built-in fitments are very ingeniously and economically contrived, and ensure for the housewife a minimum of moving about in the course of certain phases of domestic routine. The sink is well placed below the window and the cupboards are conveniently at hand on either side. Fuller particulars, together with a photographic view, are given on the opposite page.

UNIVERSITY OF ILLINOIS LIBRARY

AUG 12 1920

Societies and Institutions

Royal Sanitary Institute Congress

The congress of the Royal Sanitary Institute, to be held in Birmingham during the week commencing July 19, under the presidency of the Right Hon. Viscount Astor, Secretary to the Ministry of Health, will have under its consideration a very wide range of problems affecting public health and well-being. The programme includes matters affecting housing, industrial hygiene, and engineering work. The section dealing with sanitary science and preventive medicine will be presided over by Colonel Sir Robert H. Firth, K.B.E., C.B., F.R.C.S., and that with engineering and architecture by Mr. W. E. Riley, F.R.I.B.A., M.Inst.C.E., late Superintending Architect to the London County Council. This latter section will be devoted mainly to discussions on housing, urban and rural reconstruction of slums, school buildings, house drainage, and river pollution.

There are seven technical conferences of sanitary authorities and their officers, arranged in connection with the congress. There is also a special conference on the work of local authorities, and it is interesting to note that the work of the Birmingham Corporation Departments is to be practically illustrated at the Health Exhibition arranged in connection with the congress.

So many of the problems to be discussed affect schemes now under consideration of the Government, that it is interesting to know that among the delegates several public departments in England, Scotland, and the Overseas Dominions, including the Ministry of Health, are to be represented, and delegates are also being sent by Denmark, France, Holland, Sweden, and in addition some 600 delegates from English boroughs from Portsmouth to Aberdeen. Twenty years ago the Royal Sanitary Institute held a very successful meeting in Birmingham, and since that date the importance of health as a national asset is more generally understood, and the adjustment of the many factors that make for efficiency should be greatly advanced by this large and representative meeting of experts.

University of Liverpool School of Architecture

The following students have satisfied the examiners of the School of Architecture of the University of Liverpool in the examinations named for the degree of Bachelor of Architecture (B.Arch.) :—

Second Examination: Messrs. E. R. Arthur, G. Checkley, and A. C. Holliday.

Intermediate Examination: Messrs. A. Allinson, E. H. Ashburner, C. T. Bloodworth, D. L. Bridgwater, A. MacL. Chisholm, P. E. B. Coller, R. W. Donaldson, W. Dougill, W. B. Edwards, J. H. Forshaw, E. M. Fry, J. C. Gorrie, H. N. Griffith, C. H. Hutton, L. John, H. H. B. Jones, I. R. Jones, C. R. Knight, G. S. Lewis, H. Lewis, H. C. Machon, S. E. Mahon, G. R. Mason, J. H. Miller, G. L. Owen, J. H. L. Owen, J. Parry-Jones, H. G. Phillips, L. A. G. Prichard, H. W. Pritchard, H. Roberts, J. E. Sanders, H. S. Silcock, A. E. Smith, R. H. Turner, R. W. H. Vallis, Howard Williams, G. Walsh, and F. Williamson.

The Senate has made the following awards :—

Diploma in Architecture: Mr. S. Subhung.

Certificate in Architectural Design: Messrs. C. E. Azurdia, C. A. Browne, and W. A. Cheers.

Certificate in Architecture, Class I.: Messrs. E. R. Arthur, H. S. Bakstad, Eunice D. Blackwell, G. Checkley, W. Elsworth, J. L. Feirn, W. J. H. Gregory, and P. H. Lawson.

University College

The work of the Session 1919-20 in the School of Architecture at University College was brought to a close on July 2. The Donaldson Silver Medal, presented by the Royal Institute of British Architects, was awarded to Mr. W. C. White-Cooper; the Trevelyan Goodall Scholarship was renewed for the second year to Mr. B. L. Sutcliffe, and the Lever prizes were awarded as follows: First Prize in Architecture, Mr. H. F. Butcher; first prize in town planning, Mr. H. F. Butcher; second prize in town planning, Mr. A. G. Waller. Certificates were also awarded as follows: Architecture, Messrs. L. C. Brooks, H. Clark, A. R. Dent, S. Hyde, A. G. Macdonald and R. C. White-Cooper; Town-planning, Messrs. S. C. Foulkes, and W. H. Thompson.

Church Bells

The only certain thing known about the early history of bell-founding is that it is completely lost in the mists of antiquity. So scanty, indeed, are the facts that those who essay to write on the subject for our enlightenment are sometimes tempted to weave into their story much that is obviously fabulous and traditional. While there is undoubtedly a great deal concerning the origin of the art of which we are excusably ignorant, there is every reason why present-day aspects of the subject should not be overlooked by architects, and especially those whose work lies in church building and restoration. Particularly is this desirable in days like these, when war memorials show an increasing tendency to assume the form of a new peal or peals, or, alternatively, an old peal recast.

In this connection it is gratifying to note that the exquisite art of the keyboard carillon, which is so overwhelming in its sheer beauty in Belgium and Holland today, is to be emulated in England shortly, for Loughborough has chosen a unique and highly commendable form of war memorial in the shape of a tower, in which is to be installed a fine keyboard carillon. Other towns might with profit follow Loughborough's example, especially those near the outskirts of plains and valleys, in which situations bells are best heard.

Bell-hanging is an operation involving considerable responsibility for the architect and no small amount of technical knowledge. It must, therefore, be approached with great care, if mistakes are to be avoided. The first thing the architect will be called upon to decide is whether the bells should be hung on a timber frame or one of steel. As to this he will be well advised to accommodate his natural preference for wooden beams to the newer method of steel construction, as now advocated by the great bell founders.

Bell-founding in ancient times seems to have been carried out in this country by the members of a guild, who travelled from district to district, and with primitive plant—for the most part erected on the spot—cast bells for the cathedral builders, as required by them.

It need hardly be said that the methods employed by modern bell founders are in striking contrast to those in use hundreds of years ago, as will be clear from the following account of a visit paid by the writer to the foundry of Messrs. Gillett and Johnston, of Croydon, during which he was privileged to witness the casting of a peal of bells. By way of preface it will be necessary first to say a few words concerning the making of the moulds, which differ very materially from those used in bygone days. Having determined on the design of the bell, two sweeps, or strickle boards, as they are called in foundry language, are cut, corresponding exactly in profile with the contour of the inside and outside of the bell. The inner core is erected on a solid foundation-plate of cast-iron, and consists of a mass of brickwork—roughly bell-shaped—with a small cavity in its centre. Within this space is pivoted a vertical bar, to which is attached an arm at right angles with it. To this arm is fixed the inside strickle board, which is then revolved round the core, shaping in its circular course to the required diameter a layer of loam already plastered in the body of the core. Bell-founder's loam, which consists of several ingredients and includes sand and cow-hair, is mixed according to a formula, and is applied in a semi-liquid state. When the core is finished it is placed in a specially constructed oven for a few days, during which it gradually dries and firmly sets.

The outer part of the mould is constructed by lining a heavy iron case with loam, and "striking the mould in" with the outside sweep. The case also is then put in the oven to dry. It is on this, the outer mould, that inscriptions are stamped, the impressions being filled up when the metal is run, thus forming the letters in "bas relief" on the bell.

When the moulds are assembled, which is done by covering the core with the case, the latter takes a bearing on the base-plate and is clamped to it. It is, perhaps, hardly necessary to point out that a space is left between the core and the outer mould which, when filled with the metal, forms the bell. The moulds being now ready for the final operation, the metal, which has been melted in a reverberatory or air furnace, is run into a big ladle or cauldron capable of taking some tons of metal. The cauldron is then lifted by means of special tackle suspended from a travelling crane, and its contents poured into the moulds. After the lapse of twenty-four hours, or even longer if the size of the casting demands it, the moulds are parted, and the bell extracted.

The composition of the bell is pure copper and tin, in the approximate proportions of three and a half to one. It may be confidently stated that neither gold nor silver is used in modern bell founding, and that there is, moreover, no evidence of either in the old bells. About a century ago antimony was tried in the amalgam with a view to increasing the resonance, but without success.

Architects interested in bell-hanging will find that a great deal of practical information will result from a visit to Messrs. Gillett and Johnston's works, where the most recent examples of rigidly constructed steel frames for belfries may be studied. It may be added that Mr. Johnston is himself an expert tuner of bells on the harmonic principle, which the late Canon Simpson was the first to revive in this country.

"Combines" and Building Materials

In the House of Commons on July 7 Mr. Swann asked the Minister of Health whether he was aware of the protests which had been made by local authorities against the Government's inaction in regard to the increases in the cost of building materials, which were retarding the erection of houses, and whether the Government would take immediate steps to reduce prices and prevent rises. Dr. Addison said the protests referred to were based on a misapprehension. Some time ago the President of the Board of Trade ordered an investigation into the whole question by a committee appointed under the Profiteering Act. The inquiries of that committee were not yet complete. Mr. Swann: Is the right hon. gentleman aware that these trade combines are keeping a large number of men out of employment, and will he take steps to prevent these combines? Dr. Addison: I am not aware that they are keeping trade unionists out of work, but the whole of this matter is dealt with by the proper department, and I cannot take action until I get some recommendations.

Officials and Housing

The Chertsey R.D.C. have passed the following resolution, which is to be sent to members of Parliament for Surrey, all Surrey Councils, and the Rural District Councils Association, with a request that they take the matter up: "That this Council, having had practical experience of cottage building under the Local Government Board and under the Housing Commissioner, do hereby record their abhorrence of the methods in general of the Housing Commissioner, on the ground that his multitudinous officials and inspectors, his forms, his verbosity and vacillation create such a barrier to progress that they are no longer tolerable. His methods in general amount to government by bureaucracy and the ousting of local government in favour of official control, which in principle should be condemned. The local authority, from the consequent delay, can no longer keep faith with the public, who look to them to get the houses erected in the shortest possible time. The present method makes for a maximum of departmental control, and creates vast and needless expenditure for the taxpayer, waste of time, and consequent suffering for those needing houses."

The Shanghai Architect

In the course of an article under the above title in the "British Chamber of Commerce Journal" the writer says: "The lack of housing accommodation in Shanghai, high rents and the cost of building materials have all combined to make the day's work of the Shanghai architect one of considerable difficulty. Even with competent contractors it is generally necessary for the architect in Shanghai to give some assistance to the contractor in actual methods of carrying out his work apart from what the architect is accustomed to give in more advanced countries and beyond what should be his own responsibilities. This assistance is usually co cerned with the obtaining of materia which have to be imported, with the pra tical difficulties connected with excavati and protecting adjacent buildings a roads (in which respect the average co tractor is woefully careless) in the ca of labour-saving appliances and often interceding for him with the Municip Council for some shortenings which ha got him into bad odour with the powe that be.

Hartlepool War Memoria

The intention of the artist in the desig of this memorial is to recall the prou tradition of an ancient town by herald devices of significant historic meanin crowning the whole with a figure triumphant winged youth, symbolic of spiritual freedom or regeneration whic comes through pain and sacrific

The architectural structure is remini cent of the Gothic stonework of Hartl pool, with its noble church and histor wall. The whole rises sheer from t ground as a crowned column or pier e riched with traditional heraldry.

It is felt that a memorial should serve a symbol and incentive to renew activity and an inspiration to social se vice for intellectual and religious pr gress. Only with such an ideal can lo and sacrifice be commemorated.

The figure and devices will be in bron and a simple architectural structure w carry tablets bearing the names of t fallen. The design is to be carried o by Messrs. J. W. Singer and Sons, Lt of London.

THE HARTLEPOOL WAR MEMORIAL. DESIGNED BY PHILIP B. BENNISON, A.R.C.A.

The Week's News

(Continued from page 34)

New Church Hall for Wylam.

It is proposed to build a church hall at Wylam at a cost of more than £1,000.

Mr. John Germaine.

The death has occurred of Mr. John Germaine, who for many years carried on business as a builder at Brighton.

Haworth Housing Scheme.

The U.D.C. are negotiating for the purchase of a site in Bridgehouse Lane for the new housing scheme. An initial erection of twenty houses is proposed.

Stourbridge Housing.

Stourbridge T.C. have decided to erect 171 houses on the Grange estate. When erected the houses will make up the number of local municipal houses to 302.

Rawmarsh War Memorial.

A public hall is to be erected at Rawmarsh and Parkgate (near Rotherham) as a war memorial. The cost is estimated at £10,000.

Scarborough and Direct Labour.

Scarborough Corporation have been authorised by the Housing Commissioner to carry out by direct labour the erection of sixteen houses, at a cost of £15,064.

Armley War Memorial.

Sir Charles Nicholson has designed a war memorial, which is to be a Gothic cross upon a tall structure, resembling some of the Eleanor memorial crosses.

Housing at Byfleet.

The Chertsey R.D.C. have received the sanction of the Housing Commissioner to accept a tender of over £22,000 for the erection of houses at Byfleet.

Purchase of Land.

The land adjoining the western boundary of Hatfield Churchyard has been purchased in order that its amenity might not be spoilt by modern buildings being erected in such close proximity.

Memorial Lych Gate.

The memorial lych gate which is to be erected at Allendale in honour of the men of the parish who fell in the war is to be unveiled by Viscountess Allendale on Saturday, August 14.

Bricklayers' Wages Increase.

The pay of bricklayers in the Tyne, Wear, and Tees districts has been increased to 2s. 4d. per hour, and that of their labourers to 2s. 1d. per hour.

Demolition of New Houses Ordered.

Hayes (Middlesex) Council have ordered the demolition of two concrete houses that have been erected on their new housing site at Botwill because of the craziness of their construction.

Amateur Church Builders.

Owing to the heavy cost of rebuilding the ancient parish church of Rowley Regis, Staffordshire, the parishioners are voluntarily undertaking a large portion of the work themselves.

Eton War Memorial.

In the cloisters of Eton College a memorial has been unveiled by Field-Marshal Lord Grenfell to the memory of Old Etonians who lost their lives while serving with the King's Royal Rifle Corps. The memorial was designed by Capt. E. L. Warre.

Spenborough Housing.

Tenders have been accepted by the U.D.C. for street works for a portion of the Gomersal housing scheme. The erection of concrete houses in some parts of the area is under consideration. Sanction has been received for the borrowing of over £13,000 for housing purposes.

Technical College, Chesterfield.

Alderman G. A. Eastwood, of Chesterfield, has presented a site and made a gift of £25,000 towards the cost of building a technical college in the town at an estimated total cost of £100,000. Plans prepared by Mr. P. B. Houfton provide for a college to be erected in four sections—a main block, a north wing, a south wing, and lecture hall at the rear.

Bricklayers Wanted at Manchester.

It is estimated that a thousand bricklayers are required by the Manchester Housing Committee to enable them to meet, in four years, the deficiency in houses. As an experiment twenty-five concrete houses are being erected on the Wilbraham Road estate.

London Building Guild.

The London Building Trades Guild initiated in May has received response sufficiently satisfactory for the London District Council to proceed with the scheme. It is hoped to enrol 20,000 skilled workmen at the end of July. Over 12,000 operatives have intimated their desire to take up shares.

Bradford and Direct Labour.

Bradford Corporation has arranged to erect 600 houses, the corporation taking full responsibility through the City Engineer. A capital outlay is involved of £500,000, and it is estimated that a saving will be effected of at least £100,000, as compared with the amount required by contractors.

Rowley Regis Housing Scheme.

Rowley Regis (Staffs) Council, whose housing scheme was initiated three years ago, and who are still waiting sanction to proceed with the erection of the first houses, has protested to the Ministry of Health against the delays of Government Departments.

Farringdon Street Memorial Hall.

The Memorial Hall in Farringdon Street came under the hammer recently. The building is interesting as standing on the site of the old Fleet Prison. From an opening offer of £100,000 bidding rose to £150,000, which proved to be £25,000 below the reserve.

Abingdon War Memorial.

Roysse's School war memorial is to take the form of extending the school premises, so as to obtain accommodation for more boarders. The memorial tablet, dedicated at the commemoration of the school recently in the school chapel, contains the names of seventy-three old boys and members of the teaching staff of the school who fell in the war.

Workmen's Houses for Chicago.

One hundred and seventy-five houses, the first to be built by the Chicago Housing Corporation, have been distributed among working men. Buyers who could qualify received a home costing £800 on payments of £6 12s. monthly. The payments include fire, accident, health, and life insurance. The corporation has acquired a mile square tract and is planning 2,000 more houses.

Welwyn Garden City.

The Labour Saving Homes, Ltd., has commenced to build the first sixteen houses at Welwyn Garden City, which are expected to be ready for occupation at the end of October. Plans for houses of other types are now awaiting the consent of the Ministry, and it is proposed to build houses with four, three, and two bedrooms respectively.

Rural Housing.

The question of housing in rural areas is exercising the close attention of the authorities, and it is understood that Sir George McCrae, D.S.O., Chairman of the Scottish Board of Health, is shortly to visit the counties of Inverness, Argyll, Ross, and Aberdeen in order to stimulate activity in these areas.

Department of Scientific and Industrial Research.

The following have been appointed, by an order of Council, dated June 24, 1920, to be members of the Advisory Council to the Committee of the Privy Council for Scientific and Industrial Research: Professor Sir John Cadman, K.C.M.G., D.Sc., University of Birmingham; Mr. W. B. Hardy, Soc.R.S., Gonville and Caius College, Cambridge; and Professor Sydney Young, D.Sc., F.R.S., Trinity College, Dublin.

Guildford Housing Delay.

Guildford R.D.C. is threatening to abandon eleven housing schemes in consequence of the dilatory methods of the Ministry of Health. The council has waited two months for approval of its schemes, and a week or so ago an official was sent down to inspect a site which the Ministry had approved months ago. It is stated that the delay imposed by the Ministry has already increased the cost of the schemes by £40,000.

New Director: Scottish Geological Survey.

The Lord President, President of the Committee of Council for Scientific and Industrial Research, has appointed Dr. J. S. Flett, F.R.S., at present assistant to the Director in Scotland, to be Director of the Geological Survey and Museum. Dr. Flett succeeds Sir Aubrey Strahan, K.B.E., F.R.S., who retires this month, when Mr. G. W. Lamplugh, F.R.S., assistant to the director in England, also retires.

New Corean Cement Factory.

A cement factory has been opened at Ping-yang, Corea, by the Onoda Cement Manufacturing Company of Japan. The total cost of the factory, which has been in course of construction since 1916, was £275,625. The greater part of the machinery installed is of Japanese make. In addition to the factory buildings a club, quarters for the employees, and other buildings have been erected, and altogether the factory is one of the largest manufacturing establishments in Corea. The total area occupied is twenty acres, and the factory is said to have a capacity for the manufacture of 60,000

tons of cement per annum. The Onoda Cement Manufacturing Company is one of the principal cement companies in Japan, and has a large factory in the neighbourhood of Dairen as well as in Japan proper. During the years 1918 nd 1919 the imports of cement into Corea were 44,301 and 50,527 tons respectively.

Housing in Lanarkshire.

The Solicitor-General for Scotland stated in the House of Commons on July 6 that a scheme for 800 houses in the district of the Lower Ward of Lanarkshire has been approved by the Scottish Board of Health. These houses will be distributed over a number of sites, ten of which have already been approved. No houses have been commenced or completed under this scheme, but it is anticipated that tenders involving 128 houses, apportioned over two sites at Gartcosh and Bishopbriggs, will be invited very soon.

A Correction.

In connection with the Warrior Chapel in St. Saviour's Church, Denmark Park, we are asked to point out that the screen, which is not really a rood screen, was made and carved by Messrs. Benfield and Loxley, of Oxford, who also carried out the side wall-panelling and the east window. The Royal Arms was carved by Mr. A. A. Miller, of Edgbaston. The sanctuary panelling, clergy seat, and credence only were made and carved by Mr. T. J. C. Coggin. The Warrior Chapel was illustrated in our issue for June 30.

Progress of Messrs. O'Brien, Thomas & Co.

The changes which have taken place of late years in the character of the business conducted by Messrs. O'Brien, Thomas and Co. are deserving of something more than a passing reference, especially in view of the closer association with architects which it is the policy of the partners to encourage. For many years the firm's energies were chiefly devoted to the sale of stoves, ranges, sanitary fittings, and builders' ironmongery to the better class suburban contractors, but since the acquisition of the foundries and patterns of Messrs. Yates, Haywood and Co. and Messrs. Skelton, Corbet and Co., the company has directed its attention with increasing success to the building up of a high-class business, in which artistic merit and excellence of workmanship may fairly claim to be distinctive features.

During the period of development the partners very wisely called in the aid of such well-known architects as Messrs. Ernest Newton, R.A., F.R.I.B.A.; E. Guy Dawber, F.R.I.B.A.; Arthur Keen, F.R.I.B.A.; C. R. Ashbee, F.R.I.B.A.; Horace Field, F.R.I.B.A.; Ralph Knott; C. F. A. Voysey; Geo. Hubbard, F.S.A., F.R.I.BA.; G. Ll. Morris, Licentiate R.I.B.A.; and T. Millward Wilson, Licentiate R.I.B.A., many of whom were commissioned to design mantels and grates, and one of them the new show rooms. Quite recently the show rooms have been redecorated and so rearranged as to offer the best opportunity for exhibiting—each in its separate bay—the numerous suites now on view. This system of display, it need hardly be pointed out, enables the full effect of a suite to be studied without distraction by others in its neighbourhood, with the result that selection is greatly facilitated.

The galleries include three "period" bays showing Jacobean, Georgian and Adam designs, which may be taken as representative examples of the refinement and finish which this firm's manufactures have attained. Our representative was much struck with the conspicuous beauty of many of the tiles employed in the hearths and cheeks of the suites. In particular the shade known as the "Pearl Grey" bears a remarkable resemblance to the natural product from which it derives its name, and, moreover, blends well with the "armour bright" grates.

In the Range Show Room can be seen a comprehensive selection of improved apparatus of all types, of which special mention may be made of the Cookwell and Quadrant Kitcheners with lifting fires, and the Hot Brik Cooker Combination—used extensively for housing schemes. On the sanitary side there are exhibits of porcelain enamel baths, marble and earthenware lavatory suites, a combination lavatory and bath—also for housing schemes—showers and nickel-plated bath accessories, as well as w.c. suites with water supply laid on. The mantels manufactured in the company's workshops are all produced under the direct and personal supervision of a highly skilled foreman joiner, who has been employed by the firm for over twenty years.

During the war the resources of the foundries were exclusively engaged in supplying national requirements, and many Government contracts of an important nature were executed by the firm. Mention may also be made of the fact that Messrs. O'Brien, Thomas and Co. were the first founders in this country to manufacture the Coburn system of trolley-track gear for sliding doors.

Architects desiring to become personally acquainted with the wide scope of activities represented in these tastefully-arranged galleries will find the extensive knowledge of the manager, Mr. Howard, who has been connected with the firm for upwards of thirty years, of great practic value. The accompanying illustration reproduced from a design for a mant piece in oak by Mr. T. Millward Wilsc Licentiate R.I.B.A., and is a typical ample of the class of work which the co pany's workmen are specially trained carry out with that true instinct for int ligent interpretation and conscientio regard for fidelity so greatly valued by t architect, but, unhappily, not too oft experienced.

Trade and Craft

Lifts at Hotel Victoria.

Among the lifts supplied and fitted Messrs. Waygood-Otis, Ltd., at the Ho Victoria, Northumberland Avenue, we Three passenger lifts, each with a spe of from 200 ft. to 300 ft. per minute, a with the usual control by means of attendant in the car; two luggage lif controlled in a similar manner a arranged for a lift speed of 160 ft. p minute; six service lifts arranged so t they can be sent or called automatica to or from any floor; an electric lift f general purposes and a hydraulic bas ment lift. The head office and works Messrs. Waygood-Otis, Ltd., are at F mouth Road, London, S.E.1. The Ho Victoria has undergone considerable alte tion and improvement since it w vacated by the Government, who took over for offices during the war.

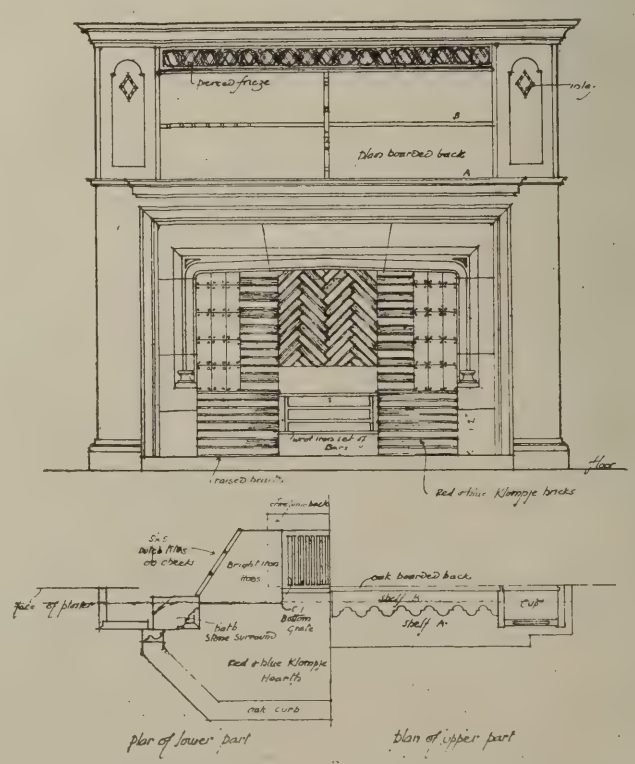
Coming Events

JULY 19.

Royal Sanitary Institute.—Congress Birmingham. Congress closes July 24.

JULY 31 TO AUGUST 14.

Summer School of Civics.—At Hi Wycombe.



DESIGN FOR A MANTELPIECE IN OAK. BY T. MILLWARD WILSON, LICENTIATE, R.I.B.A.

RUBEROID

Roofing

RUBEROID combines all the essential requirements of a flat roofing. Low in prime cost, it is durable, unaffected by heat or cold, yet flexible, and will not crack or run. Is proof against vibration, and withstands foot traffic. Light in weight yet substantial. Needs no metal connections, and is equally efficient whether laid on boards or concrete, on flat, sloped or curved roofs. Although the least expensive it has proved during the past 29 years to be the most reliable form of flat roofing.

Our most convincing testimony is the buildings we have roofed. The premises for Messrs. Sutton & Co., Cork illustrated hereunder is but one of the thousands of buildings covered with Ruberoid. Our Catalogue, illustrated with other examples of our work and containing full information, will be sent on request.

The Ruberoid Co., Ltd., 1, Waterloo House, 81-83, Knightrider St., E.C.4

Branches :— Newcastle. Birmingham.

Branches :— Leith. Dublin.

HOUSING SCHEMES

STANDARD METAL WINDOWS COST LESS THAN WOOD

WRITE FOR STANDARD SIZES TO

CRITTALL, BRAINTREE

CONTENTS.

Edited by PROFESSOR A. E. RICHARDSON, F.R.I.B.A.

Notes and Comments: Stabilising the Building Trade; Timber Supplies; Westminster Abbey, 59; Decoration of School Halls; Glasgow Housing Exhibition; Mr. Cass Gilbert in London; The proposed Pylon; Enquiries Answered 60

Architectural Causerie: The King's Highway. By Aero 61

The Week's News 62, 84

Mr. Cass Gilbert in London 63

The Young Architects. By W. S. P. 64

Westminster Abbey and its Repair... 67

Architects' Fees for Housing Schemes 68

The London Flying Club, Hendon... 71

The Concrete Institute 71

Land for Acton Houses: Arbitrator's Award 72

A Suggested National War Memorial 72

Houses or Barracks 72

The Planning of Cinema Theatres ... 77

Houghton-le-Spring Secondary School 78

Competition News 81

Correspondence 81

National Federation Half-Yearly Meeting 82

Enquiries Answered 82

Progress of the General Electric Company 82

Engineering Formulae 83

Weekly Housing Report 83

Trade and Craft... 83

Church Building 83

Coming Events 83

Current Prices of Materials ... ... xix.

Electrical Notes ... ... xxii.

Complete List of Contracts Open xxiv., xxvi.

ILLUSTRATIONS:

Domenico Fontana 57

Mosque of Sultan Ahmed I., Constantinople 58

Mr. Cass Gilbert 63

The Woolworth Building, New York ... ...

Minnesota State Capitol. Cass Gilbert, Architect ... ...

Current Architecture. 29 and 30.—The London Flying Club, Hendon, H. W. Matthews, M.S.A., Architect ... 65,

London Flying Club, Hendon: Ground and First Floor Plans

Suggested Design for a National War Memorial. By Sir Frank Baines, Principal Architect H.M. Office of Works ... ...

Current Architecture. 31—Typical Plans and Sections of American Cinema Theatres ... 74,

Current Architecture. 32—Houghton le Spring Secondary School Competition: First Premiated Design. R. S. Phillips, M.S.A., and R. V. Taylor, A.R.I.B.A., Architects ... 79,

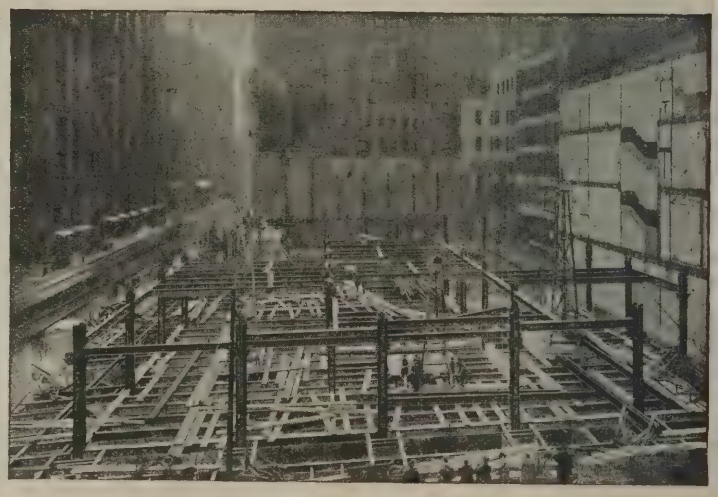
Rain-Water Head Manufactured by James Allan, Senr., and Son, Ltd. ... ...

EXPERIENCE

EXPERIENCE is just knowing things. We have been long enough in the constructional trade to know we have the right material to offer you — promptly. With the added intelligent anticipation of your wants the War has taught us, we stand ready for your enquiries. Experience of our service has pleased so many.

STOCKS OF
British Standard Sections in Joists, Channels, Angles, Tees, Flats, etc.

DAWNAY DEFINITIONS—5.



ARCHIBALD D. DAWNAY & SONS, Ltd.

Telephones: Battersea, 1094 (3 lines).

Steelworks Road, Battersea, S.W.11.

Telegrams: "Dawnay, Battsquare London."

And at East Moors, Cardiff.

Telephone: Cardiff, 2557.

Telegrams: Dawnay, Cardiff.

Wednesday, July 21, 1920

Volume LII. No. 1333

THE ARCHITECTS' JOURNAL & Architectural Engineer

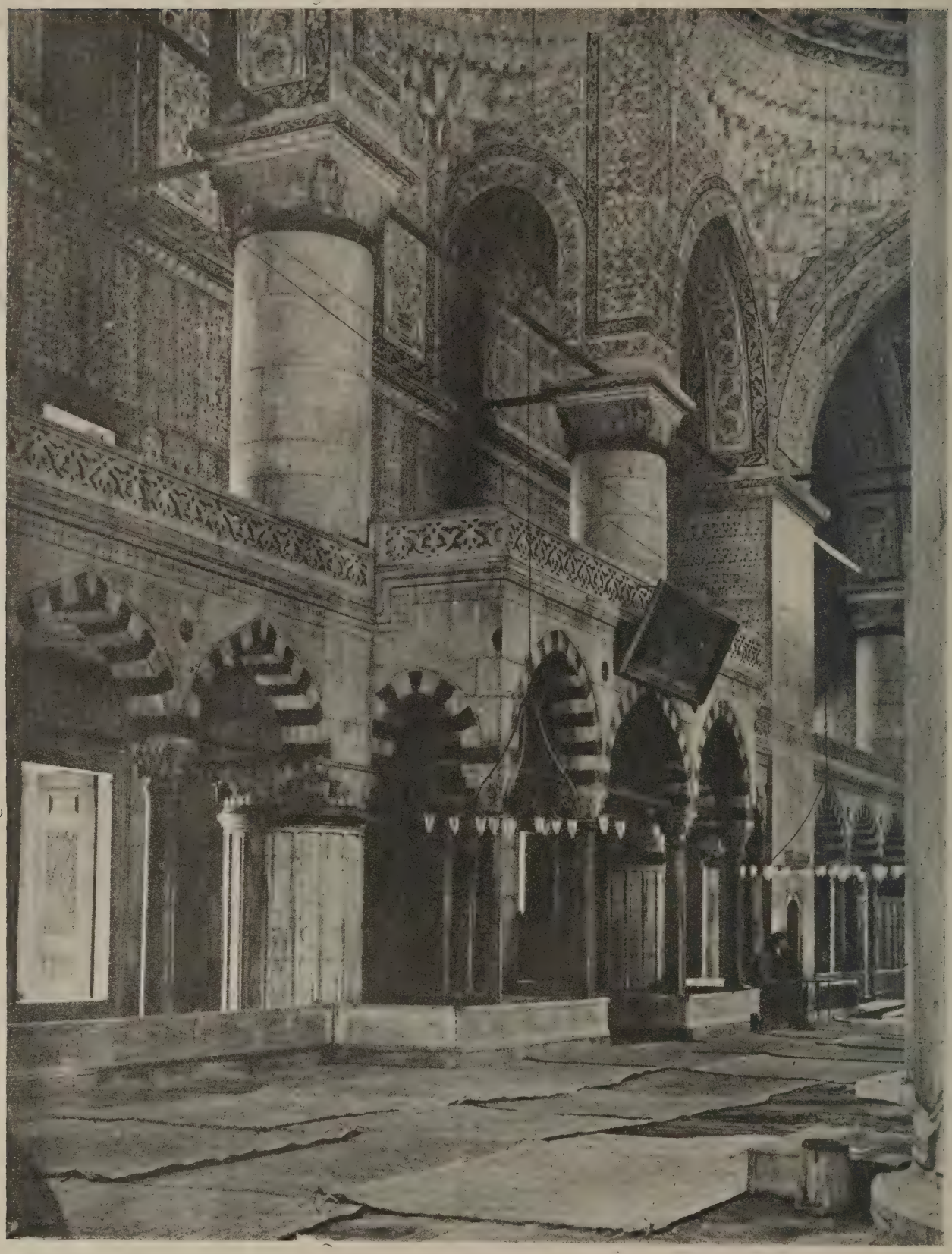
With which is incorporated "The Builders' Journal"

DOMENICO FONTANA

A notable Italian architect, born 1543, died 1607. He was responsible for a good deal of work at St. Peter's, Rome, and completed Michel Angelo's great dome. He also superintended the transportation and erection of the obelisk which stands within Bernini's colonnade.

27-29 Tothill Street, Westminster, S.W.1.

Mosque of Sultan Ahmed I., Constantinople



Though erected towards the close of the great mosque building period (*circa* 1608-1614) this interior may be classed with the finest of the great churches that took shape on the imposing model of Santa Sophia. As with many another building of the same type, the introduction of tie-rods between the arches detracts somewhat from architectural effect.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, July 21, 1920 Volume LII. No. 1333

Notes and Comments

Stabilising the Building Trade

DILUTION and stability are the gist of a Bill which, on the advice of a Cabinet Committee of which Sir L. Worthington Evans is chairman, the Government are about to push through Parliament. Its chief provisions are (1) a guarantee of full employment for five years, and (2) substitution of a week's "notice," instead of the hour's notice now prevalent. There is to be a guaranteed weekly wage, the men being paid even when bad weather stops their work. It is further stated that in return for these concessions, the Government will require the trade unions to consent to dilution, to relax the apprenticeship system, and to agree to a large number of ex-service men being employed. It is said that the Government feel this course to be the only practicable way out of the present housing crisis. We should like to think it an effective solution, but the customary perverse and implacable attitude of the trade unionists does not greatly encourage the hope. The Bill meets the objections that workers have frequently expressed of the dangers of unemployment arising from the wholesale introduction of ex-Service men. Trade unionists fear that "dilution" is a euphemism for "swamping," and that when the present emergency has been met there will be a large surplus of workers in the building trades with the harassing menace of depressed wages as an economical consequence of severe competition for jobs. That these fears are groundless is a negligible condition, because, all the same, they operate effectually. The point is, will this Bill remove them? Certainly it would remove two great evils which we have often deplored, as all humane employers do—insecurity of tenure and the incidence of unemployment, whether because of bad weather, or because of slackness. But in removing these it would create others, chief of which is one that arises from the psychology of the situation. Is it likely that a man will work the harder because he is secure of his job? In certain circumstances he would; for it is whispered that many instances of "ca' canny" spring from the fear that the sooner the job is finished, the sooner the men will be thrown out of work. To get rid of the bugbear of unemployment is, we verily believe, to scotch the demon of unrest. But who is to pay the enormous expenses that would be involved in this insurance against unemployment from bad weather or bad trade? That is what the Bill should tell us, and we are writing in advance of its introduction to an expectant House of Commons. The money can come, we imagine, only through some State-arranged system of insurance, to which both employers and workpeople must contribute, and to which some dole from the State will be added. But to put further pecuniary burdens of any kind on the builders is to increase still further the already intolerable cost of building, and thus to make the "economical rent" even more remote than it is now. But, as we have said, the great difficulty will be to convince the trade unionists that it is their duty to get on with house-building by allowing ex-Service men to take part in it. The case being desperate, the expedient is worth trying; but very much depends on the cogency and persuasiveness with which the Government are able to handle the crisis. Dr. Addison states that the housing bond campaign is proving even more successful than had been anticipated, more than thirty millions sterling having been already raised. Formerly there were "the three m's" as obstacles—men, money, and materials—now it is a matter of "men only," and we trust that the new Bill may persuade them to come in.

Timber Supplies

A census of timber resources should be of incalculable service. As Mr. H. D. Searles-Wood, F.R.I.B.A., chairman of the Timber Committee now sitting at the Imperial Institute, has said, the Empire Timber Exhibition now being held will serve an important purpose in indicating the wealth of the Empire in timbers of all classes, but, in addition, it is necessary to know with certainty the particular uses to which these various timbers can be put, and which of them exist in sufficient quantity, and can be exported at such prices as will enable them to enter the markets of this and other countries of our Empire. The committee is composite and representative, comprising architects nominated by the R.I.B.A., builders nominated by the Institute of Builders, representatives of the timber trades nominated by the Timber Trades Federation, furniture manufacturers nominated by the National Federation of Furniture Manufacturers, and a representative of the Carpenters' Company. The timber resources of each country in the Empire are being considered in turn, and the reports upon them should form a very valuable means of education as well as providing trustworthy information that can be turned to direct commercial or trade account. The committee is asking, through its chairman, for all possible help in its investigations, and we are sure that this will be ungrudgingly given by all who are able to contribute to the as yet scanty knowledge of the sources of timber supply; for the growing scarcity of timber has become a world-menace which all will gladly help to avert.

Westminster Abbey

It is gratifying to find that the Westminster Abbey fund is making steady progress. Interest in it has been much stimulated by interesting letters that have been addressed to "The Times" by Canon Barnes, Mr. Frederic Harrison, and Mr. H. P. Burke Downing. Mr. Harrison's needless admonitions as to the care that should be exercised in restoring called forth a dignified protest from Mr. Downing, who wrote: "That the work should be entrusted to an engineer, as Mr. Harrison suggests, is unthinkable. A knowledge of architecture, archæology, æsthetics, a training in constructive works,

and skill and experience how to keep an old building from falling down, are essential qualifications of an architect—not all are required in an engineer—and all are necessary in one who is entrusted with the care of the fabric of Westminster Abbey." Mr. Harrison afterwards made a most graceful apology, stating that the report by Mr. W. R. Lethaby, surveyor to the Abbey, and the letter from Canon Barnes had set his mind at rest. If further assurance on the subject were at all necessary, we would like to support all that has been said of Mr. Lethaby's scholarship, and his extreme caution in matters of restoration. The care of the Abbey could not be in safer hands.

Decoration of School Halls

Some very sensible observations on this much-neglected subject appear in a letter printed in last week's "Times Educational Supplement." Complaint had been made of the want of unity in the decorations of a certain school. This imperfection, according to the writer of the letter, is attributable to "the surprising assumption that a number of artists would be able to present a unified scheme when painting in detached studios." That would account for it, without a doubt; but how very remarkable that the promoters of the scheme did not think of taking this elementary precaution. Town-planning or unifying principles have not yet permeated Bow, E.3, the writer of the letter thence being both brilliantly exceptional and exceptionally brilliant. Further suggestions of his which are worth memorising are—that a scheme of decoration should be submitted before execution to expert artistic and educational criticism; that the actual painting should be done by artists working on the spot; and that discrimination must be shown between the merely instructional representation and the beautiful picture. A further recommendation as to pictures is that they should be changed at short intervals, as what is familiar ceases to impress. Books are exchanged between the schools, and, if books, why not pictures?

Glasgow Housing Exhibition

Glasgow Corporation claims to have taken a foremost place in the housing movement. It held last year a Housing and Health Exhibition that was so successful as to warrant its repetition. Accordingly, another Housing and Health Exhibition is to be held at Kelvin Hall, Glasgow, from Wednesday, September 15, to Saturday, October 9, 1920. It is stated that Kelvin Hall, having been enlarged, is to-day, with its more than 200,000 square feet of floor-space, the largest exhibition building in Great Britain. Architects going North for their holidays should include in their itinerary an exhibition that is sure to offer for their inspection very much that they may advantageously study.

Mr. Cass Gilbert in London

No American architect enjoys a higher reputation among us than Mr. Cass Gilbert, and the British architects who have been able to meet him personally will always consider themselves very fortunate. Very possibly it may have been the bruit of the gigantic Woolworth building that first brought his name into prominence here among the general public; but among British architects it was well known that Mr. Gilbert was capable of higher things—we mean qualitatively. It was known that he is a man of parts, a scholar who had sketched the ancient monuments of Greece and Rome, and had turned his accomplishments to fine practical account as assistant to Stanford White. Cass Gilbert is not to be classed among those superb specialists who will not, or cannot, or by an exacting public are not, allowed to forsake the class of work in which they have achieved reputation. Nor is he the all-round man, the "general practitioner" whose diversity tends to mediocrity. He is of the rare type of those who do a things well. In this respect he is a true scion of th great house of McKim, Mead, and White, whose mis cellaneousness was their most astounding quality. I takes a great man to be as various as Mr. Cass Gilbert ha been—his work ranging from a monumental building t a humble cottage—and, on the quality as well as on th variety of work, it is not an abuse of words to say tha Cass Gilbert is a great man, coming as near to genius a any architect that the Continent of America has ye produced, hardly excepting his great teachers, Charle Follen McKim and Stanford White. Concerning th Woolworth building, the chief thing to take into accoun is not its gigantic size, but its embodiment of a very suc cessful attempt to invest a skyscraper with architectura character.

The Proposed Pylon

Seldom has an architectural scheme met with such storm of disapproval as that which immediately followe the publication of the design for a war memorial to b erected at Hyde Park Corner. As, in face of this out burst, there is but little likelihood that the project wi materialise, detailed criticism of the design would b rather gratuitous at the present moment. The commo objection to it refers to its scale and character. Com plaint is made that it is much too large, and that ther was no need to imitate the work of the early Egyptian —that simplicity and grandeur could have bee attained without reverting to the archaic forms tha have come down to us from the Pharaohs, whose chie characteristic was a love of brutal oppression. M Stephen Paget has said in a powerful but somewha rhetorical letter to "The Times," that "of all style unfit for London and alien to London, the Egyptian i the most unfit and alien; and the bigger it might be, th more vulgar it would be. It is heavy, passive, sulky; i is the style of a caste-ridden people; it requires the sun light and the desert; it would show the dirt; it proclaim complete indifference to the hard estate of the poor." Mr. John W. Simpson, President of the R.I.B.A., pro tests "very earnestly against employing a Governmen Department to produce the monument which, above al others, should represent the finest art of our country." With Mr. Simpson's protest—or, rather, with the prin ciple it involves—we are in entire sympathy. Boldl conceived, and impressive by its magnitude, the pro posed memorial may be, but its merit is less in questio than its fitness to occupy the position assigned to it, or t express the sentiment of the British Empire. If we ar to have a national war memorial at all, most certainly th design should be obtained through competition open t all British subjects, whose designs should, of course, b assessed by a competent jury appointed by the R.I.B.A But as a necessary preliminary, the site should b chosen and agreed upon by a Parliamentary committee

Enquiries Answered

We note with satisfaction the continuous growth o interest in our "Enquiries Answered" section. Thi active spirit of inquiry is a very healthy symptom. I shows that architects and builders are conscious tha the great work of reorganisation demands something better than knowledge gone rusty from long disuse Our "Enquiries Answered" section, however, convey a very inadequate impression of the large number o questions with which we are being daily and hourly aske to deal. Over the telephone, and in the Reading-roon at 27-29, Tothill Street, members of our staff are con stantly replying to eager enquiries on all sorts of sub jects relating to the Profession and the Industry o building. To be of service in this way is most gratify ing to us, and once again we take leave to assure ou readers of the pleasure it gives us thus to extend the usefulness of the Journal to its readers. Any questior within its scope will always receive courteous attention.

Architectural Causerie: The King's Highway

(Concluded from last week's issue.)

OUR forefathers certainly owed Macadam a deep debt of gratitude, and many a weary traveller by coach and chaise must have been thankful when he left the stones of Bristol City for the comparative ease of Macadam's surface to Bath, Gloucester, Cheltenham, or Taunton.

* * *

In the meantime the French had effected many improvements in the construction of roads—notably the new system invented by Trésaguet. This engineer had a special recipe for the design of roads. Disregarding the old French system of making the crowns of the road the thickest—generally 22 in. thick, diminished in proportion to the sides—Trésaguet advocated a uniform thickness of 10 in. for the whole section. His methods are given in the following synopsis: First the engineer excavated the road to the determined level; he next shaped the bottom to the same convexity as required for the surface. His procedure then follows that of the mason forming a rough arch. At the sides of the roads he placed large stones to form springers abutting against the earth. The space between these parallel ranges of springers was taken by a hand-set pavement of large stones following segmental formation. Above this primary foundation the engineer placed several layers of small stones, breaking bond and thoroughly rammed, with all hard unshapely pieces smashed off. Finally he arranged a finishing surface of small metal 3 in. thick. From the above synopsis we can date the beginnings of modern road construction in England and France, and can pay homage to Macadam and Trésaguet.

* * *

Some time ago Mr. Davidge secured a copy of Telford's Holyhead Road, showing the construction of the highway, the bridges, culverts, and drains, and the various contours between London and Anglesea devised by this famous engineer. The coachmen of those days, following the fashionable taste for quips and jests of a quasi-classical turn, nicknamed Telford "The Colossus of Roads." Telford was a far-seeing engineer. He evolved a system of road construction combining the principles advocated by Trésaguet with those of Macadam. For roads of the first class Telford excavated a trench of the desired width, but he kept the bottom level. His next procedure was to place in position a hand-set pavement, consisting of selected stones, without springers at the extremities, starting at five inches in height at the sides and running to nine inches deep at the centre.

* * *

Great care was taken in both the selection and the placing of these stones, which were not more than 4 in. wide at the top, and were shaped so as to free them from irregular projection. When this primary pavement was in position, the spaces between the selected stones were filled with small stones and well rammed. Telford seems to have aimed at a convexity of one in sixty for his primary foundation. He then gave directions for a layer of hard stone, broken in all directions to pass a 2½ in. mesh, 6 in. in thickness at the centre, and 4 in. at the margins, to be placed over the hand-set pavement. When the whole was compact, a layer of selected gravel, 1½ in. thick, was spread to ensure the rounding of the surface. Such were the benefits resulting from Telford's wise engineering that the passage to Ireland was accelerated, and the engineer's proud boast that "horses could canter from Highgate to Holyhead along the whole surface of the road for two hundred and sixty miles" was realised. Thanks to the skill of the road engineer, coaching was brought to a fine art; and even when the London and Birmingham Railway crossed the road at Denbigh Hall, nearly fifty miles from town, the Government sanctioned the expenditure of many thousands of pounds for further improving the road, such was the belief in the speed and safety of the stage coach.

* * *

To-day the trunk roads of England are sadly in need of repair. We are jerked from our seat when we rush between the dancing telegraph wire. We contemplate learned treatises on the nature and reciprocity of pot-holes, and condemn the legality of road traffic of heavy tonnage. Mr. Davidge, who is one of the leading authorities on road traffic, has prepared diagrams showing the increase of vehicular traffic on the main roads from London to points fifty miles outside that have taken place during the last decade. It is alarming to note to what an extent the roads are being subjected to traffic for which they were never designed. Here is a problem of gigantic size for the Ministry of Transport. Telford believed in the making of a hard, unyielding foundation as part of his excellent system. Macadam thought that an elastic bottom of natural earth gave the best results. That Telford's method was the best is proved by the present condition of the Holyhead Road, which during the war was subjected to the strain of unprecedented loads. Many engineers adhere to the Telford system, opining that resiliency is most needed at the surface and that a yielding foundation tends to disintegrate the substance of the road. Telford's method has the additional advantage of providing for internal drainage; it prevents crushing and the working up of softer materials from below. It is an architect's job to know at least something of every trade; and although in the piping times of peace he may not be called upon to construct roads, the making of drives, avenues, and paths comes within his sphere, and he will be not one whit the less efficient for studying the methods of Telford.

* * * *

When the candles are lit in the evenings I like to dream over the old methods of our forebears, who gained in variety what they lost in speed of transit. Do not imagine, pray, that I am advocating a return to the practices of the irksome old times. We are prone to recreate the past and to impart additional glamour to its memory without taking into account the discomforts. Modern methods of transport are about to undergo an important change; that is to say, rational methods of travel, not in the direction, let it be hoped, of clouding the sky with petrol-driven kites or gasbags of huge size, whose chief purpose is limited. We are to see the remodelling of the roads, the construction of new highways for motor transport, the improvement of inland waterways, and the electrification during the next quarter of a century of all the main trunk railways. Here is scope for both architect and engineer if only some machinery can be devised to bring these experts together. It should be possible to effect improvements without subjecting the fair face of the United Kingdom to further wrinkles. Power will be derived from the mouth of the pit, the industrial centres in the north will be spring-cleaned, loop lines will be constructed clear of big towns, there will be fewer deadends and blind roads. With all these things likely to occur architects will need to keep abreast of events, for transport improvement means building on the grand scale. It is even possible that our great cities will be able to boast of stations vieing in style, if not in scale, with the great works in America. May the picture of old England remain a joy instead of becoming a reproach.

AERO.

The Week's News

King Edward Memorial at Holyrood

Their Majesties have approved the final plans for the memorial to King Edward to be erected at Holyrood. It is expected that the memorial will be completed by the beginning of next year.

County Hall Dining Room

By an alteration of plans, involving a cost of £16,500, it is proposed to provide at the new County Hall, Westminster, a room having accommodation for 1,000 persons at a sitting or 434 for a dinner.

Westminster Hall

Renovation of Westminster Hall will cost exactly double the amount originally provided by Parliament. The original contract was for £60,000, and the work was to have been completed two years ago. Workmen, however, are still engaged on the building, and a revised estimate brings the cost of the renovations up to £120,000. It is hoped to complete the work by 1922.

Reims Cathedral

The Duke of Portland, who is chairman of the British Empire Section of the Reims Cathedral Restoration Fund, is appealing for funds for the restoration of the Cathedral. He states that not only have the plans of the building been preserved, but plaster models of all the statuary are in existence. It is estimated that the work will cost about one million pounds.

Douglas Ball Room Burnt Out

Douglas Palace, with a ballroom which has been for many years a centre of gaiety, has been destroyed by fire. The building stood on the Castle Mona Estate. It was built about twenty-five years ago, and, as the earliest example of what may be called Blackpool architecture, it surpassed all its imitators both in size and design.

Leeds "White City" Scheme

An ambitious "White City" scheme has been formulated at Leeds, in connection with a site of 76,176 square yards adjoining Patternewton Park. The scheme, which is estimated to cost about £250,000, provides for a large promenade, a theatre, and a cinema to accommodate 2,500 and 1,800 respectively, two bandstands, Continental and Japanese tea gardens, a Japanese pagoda, and a ballroom to accommodate 800.

Another Housing Bill

The Ministry of Health is preparing to introduce another Housing Bill. It will extend the period during which subsidies may be paid under the national housing scheme, without increasing the total amount of expenditure under this head. The measure will also contain provisions designed to tighten up the law in relation to luxury building, but the Government do not intend, as was suggested, to introduce a general system of licensing in connection with building operations.

Restoration of Ancient Abbeys

During the restoration and excavation of Rievaulx Abbey, Yorkshire, two small leaden caskets, containing the relics of some saints, have been discovered. The excavation in the nave has shown the piers to be complete in number, although in each case the base has been shattered. The outlines of the various chapels can be clearly traced, and some of the altar stones still remain. At Fincale Priory, Durham, the walls of the south transept and the structure generally have been repaired and dangerous portions of masonry temporarily shored up. At Tintern Abbey, some portions of the walls have been strengthened, particularly the walls of the tower, and similar work is well in hand on the west wall and nave. At Framlingham Castle, Suffolk, large fractures revealed in the towers are being secur although the flaking of the stone has caused m trouble. Excavation is proceeding at the sallyport, a the line of the old walls has been exposed.

Gwydyr Castle Sold

It is announced that Gwydyr Castle, one of the m perfect Tudor mansions in the country, has been sold Lord Lincolnshire. All the rooms have still the origi panelling, ceilings, and floors, and are filled with original furniture.

The Threatened City Churches

At the first meeting of the Parish Church Council Allhallows', Lombard Street, a resolution was una mously passed, begging the Bishop of London to rej the scheme to demolish Allhallows' Church. The rec the Bishop of Croydon, who presided, strongly suppor the resolution. A petition signed by 4,389 perso including 237 City firms, protesting against threatened demolition of the Wren church of St. Nicho Cole Abbey in Queen Victoria Street has been sent the Bishop of London.

Liverpool University Scholarships

The recent examinations for prizes and scholarsh in the School of Architecture of the University of Liv pool, have resulted as follows:—Holt Travell Scholarship of £50 each to G. Checkley and Elsworth. Elmes Memorial Entrance Scholarship £30 a year for three years to E. H. H. Higham. Le Prizes (books); first prize of £15 to G. Checkl second prize of £10 to W. Dougill. Special prizes two guineas each to the following: W. Elswor W. J. H. Gregory, H. S. Bakstad, I. R. Jones. a P. H. Lawson.

The A.A. Prize Giving

The Architectural Association held their annual pri giving and exhibition of work by students in the Sch of Architecture, on Friday afternoon. The prizes w distributed by Sir Aston Webb, K.C.V.O., C. president of the Royal Academy. The exhibition students' work is to remain open during the hours 10 a.m. to 8 p.m., until the end of the month.

Sir Aston Webb said that one serious responsibi for architects was that their work must be more or l permanent, and another was that they were not spend their own but other people's money. Followed as career, architecture should be a real pleasure all way through, and he advised those who did not f pleasure in it to leave it.

Employment in the Building Trade: Government Measure

To remedy the check to house building caused shortage of labour consequent on the refusal of the bu ing trade unions to agree to dilution, a new Bill will presented to Parliament shortly. The Government p pose: (1) To guarantee all men employed in the bu ing industry full employment for five years from passing of the Bill; (2) to provide that in future such n shall be employed by the week and not, as at present, the hour. This means that there will be a guarant weekly wage, and that men will not lose pay as they now when wet weather compels them to stand idle. return the Government require the building trade uni to agree to dilution, the relaxation of the apprentices system, and the employment of a large number ex-Service men. The Government regard the posit as so serious that Ministers have agreed to force the through Parliament as soon as possible.

(*Continued on page* 84.)

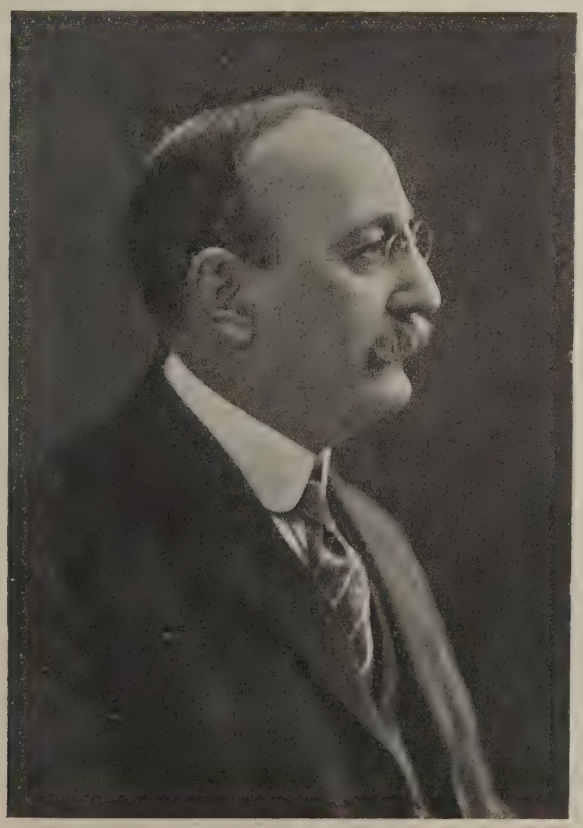
Mr. Cass Gilbert in London

ON Monday last Mr. Cass Gilbert, the distinguished American architect, who is now on a short visit to this country, was entertained to dinner at the Café Royal by the Council of the R.I.B.A. Mr. Gilbert is a very welcome visitor, for he has long been known by repute as an architect of brilliant and scholarly achievement; the opportunity of meeting him in the flesh is one which affords very great pleasure to British architects.

It is as architect of the Woolworth Building—"the highest building in the world"—erected on Broadway, New York, that public attention has been mostly directed towards Mr. Gilbert. The mere listing, however, of buildings of first importance designed by him reveals that, in point of extent, variety of purpose, versatility in style, and bold experiments accomplished with success, he has had not only an extraordinary practice, but one that is unique among those of the most widely known of modern American architects.

Mr. Gilbert received his early architectural training under the late Professor Eugène Létang at the Massachusetts Institute of Technology; in the office of Messrs. McKim, Mead, and White, where he worked as the assistant to Stanford White; and by means of sketching old masterpieces in Europe. That training has been supplemented by a practice full of evident endeavour to keep to the highest traditional standards of architectural design. His practice has of late years been confined almost exclusively to the field that affords the greatest scope and opportunity to the artist possessed of large ideas—the field of monumental design. Town plans, as for New Haven, Connecticut, and St. Paul, Minnesota; and the group plan of the proposed University of Minnesota, which is almost a town plan for an educational city; Government buildings, as the Customs House, New York, the State Capitol at St. Paul, the designs for the State Capitol at Madison, Wisconsin, and the Provincial Government building at Regina, Saskatchewan; large exhibition buildings, as the Agricultural Building at Omaha, Nebraska, and the Fine Arts Building and the Festival Hall at St. Louis; other public buildings, as the Essex County Court House at Newark, New Jersey; the New York, New Haven, and Hartford Railway Station at New Haven; the St. Louis Public Library, the Industrial School at Newark, the Library of the University of Texas, the Ives Library at New Haven; very large buildings for commercial purposes, such as the Boston Stock Exchange, the Endicott Building at St. Paul, the Brazer Building at Boston, the Broadway Chambers, West Street Building, and the Woolworth Building—all in New York; and the Suffolk Bank at Boston.

THE WOOLWORTH BUILDING, NEW YORK.



MR. CASS GILBERT.

Such is an incomplete list of the most important works that have engaged Mr. Gilbert's attention and occupied the lion's share of his thoughts, while among minor commissions, most of which were executed during the early years of his professional career, are to be found churches, shops, club-houses, small railway stations, schools, at least one excellent tomb, and even a cottage or two.

From the very commencement of his student work at the "Tech" at Boston to the Woolworth Building, every design bearing his name has been stamped with conspicuous talent. There is displayed a fine conception, a bigness of ideas, a good sense of practical plan-

ning, and of what is practicable in the use of materials and the employment of decoration and detail.

Mr. Gilbert seems to have no pronounced predilection for any historical style. His attitude is, like Stanford White's before him, that in such a complex age as ours when an architect is called upon to design structures of such differing kinds—perhaps a theological seminary, a railway station, a legislative building, or a factory—the value and use of historic precedent must be judged by the light of beauty and appropriateness to the purpose of the structure being designed. In his buildings at the Omaha and St. Louis Expositions, Mr. Gilbert has shown in his use of the Classic Orders a keen sense of the fitness of things. At Omaha he built a structure such as a Roman might have carried out in the days of Augustus if called upon to erect a temporary building in honour of the Goddess of Agriculture—festive, dignified—a full-size plaster model for a permanent building of marble.

English Gothic is the source of inspiration of several of his designs, many of which have pressed hard for first place in a number of competitions, the most notable being the designs for the Pittsburg High School, the Union Theological Seminary of New York, and the Saskatchewan Provincial Government Building. His successful competitive design for the Madison, Wisconsin, High School was in the same style.

The historic style to which one or another of his designs is related is never more than an "influence." The design itself is always the outgrowth of the requirements, and the study of the complex requirements of modern life—so ultra-modern in New York—has been taken seriously. The use of the steel or concrete frame is evident, but not unduly pronounced in expression, not, at least, to the extent of showing the skeleton through the flesh, which is a noticeable fault in many American buildings, especially commercial buildings.

Mr. Gilbert's Woolworth Building, "the last of the skyscrapers," is also, by general consent, the finest. Expression without exaggeration of the type of construction, combined with good scale and a sparing use and judicious placing of ornament, account for the high excellence of its architectural effect.

The Young Architect

THE men have had a long innings, and the wome have managed to make themselves heard, b up to the present the children have received r official invitation to help the country to sol its housing problem.

That the juvenile mind can tackle literature succes fully has been proved by Miss Daisy Ashford's "Th Young Visiters," and surely that imaginative type mind, unfettered as it is by red tape and tradition, migl well throw fresh light on our architectural problems. was claimed that women ought to know something abou houses, as they spent so much time in them, and aft all the children can use the same argument.

The writer has before him two sets of house plan accompanied by estimates, etc.—one by Isabel, age eleven, the other by Margery, aged nine. Let us co sider the two efforts in this order.

Isabel's plans are drawn to a somewhat unusual scal three feet to one centimetre, but we must not let ou ancient customs prejudice us against them because of th innovation. The house is contained in a simple rectangl quite in the manner approved by the Ministry of Healt but the rectangle scales 60 ft. by 33 ft., and in othe ways the plans depart materially from that Hous Designer's Bible, officially known as the Manual.

The "First Flore" is on somewhat familiar lines, co taining hall, passage, drawing-room, "dineing"-room study, "brackfast" room, and kitchen (with cupboard The "Second Flore" is a well-thought-out scheme divided into three parts, for grown-ups, children, an maids respectively. Each suite is provided with a bath room; there are three bedrooms for maids and three fo the children, while the grown-ups get two bedrooms an a "dressing-room for men." The "Third Flore for th Children" contains play-room, nursery with cupboard girls' room with cupboard, boys' room with cupboar (both smaller than those for the girls), and a large co cert-room with stage, dressing-room, and a commodiou cloak-room.

MINNESOTA STATE CAPITOL. CASS GILBERT, ARCHITECT.

H. W. Matthews, M.S.A., Architect

Photo: Newgrove, Ltd.

Besides being a rendezvous for British flying men, this club is designed to encourage flying and aerial travel generally. Some account of the very complete accommodation provided is given on page 71. The building, an attractive example of architecture in the Georgian manner, is of reinforced concrete construction, with red brick outer walls and granolithic facings. The roof is of Broseley tiles. The rain-water heads are castings from fine Georgian examples dated 1796.

UNIVERSITY OF ILLINOIS LIBRARY

AUG 16 1920

The whole scheme is very business-like, doors being shown with the direction of opening clearly indicated; the stairs on the various floors (or "flores") fit over each other in the way beloved by the professional (but rarely bothered about by the client when he submits sketches of his heart's desire in the way of dwellings), while the accommodation provided leaves the efforts of a great and powerful Ministry well in the background.

The accompanying written statement runs as follows: 'The rent is £7 no insurance or rates for they are all included the wine cellar is under the Bottom floor 30 casks of wine is in it. The 2nd flore is all for children, the rent includes 7 maides wages and their food, the bedrooms on the passages are bellonging to the maids, children or grown-ups, in the childrens bathroom the round thing is a tub to sail boats in, in the dineing room and drawing room the line agross—a curtain and a curtain rod."

If there is a Fellow of the Royal Institute who can beat this a fortune clearly awaits him.

Margery's effort shows more imagination than Isabel's, particularly perhaps in her greater freedom in the treatment of staircases, and in the varying size of the house on the different floors. Many of us might get better plans if we took a hint from this latter point.

On the ground floor Margery shows dine-hall, kitchen, scullery, pantry, grand audience hall with grand stage, and ordinary audience hall with ordinary stage. On the first floor are mother's study, father's study, maid's study, and butler's study; the two latter items are too often omitted from the plans produced by even our best men. The second floor contains seven bedrooms and one bathroom. One bedroom contains eight beds and another six, while the two rooms for visitors "communicate" in the manner preferred by the "Young Visiters" in Daisy Ashford's masterpiece. These two bedrooms and the one for the parents are provided with tables and chairs, the latter shown very charmingly in bird's-eye views.

On the third floor are mother's nursery, father's nursery, and a nursery, while the shortage of baths on the second floor is made good by the provision of three more on this plan.

Attached to this set of plans is the following: "It is furnished as you can see it is only £5 5s. a year! Maids provided! It is a fine house is it not?"

W. S. P.

Westminster Abbey and its Repair

Statement by Professor W. R. LETHABY

PROFESSOR W. R. LETHABY, Surveyor of Westminster Abbey, has published the following article in "The Times":—

"I have been asked to give some idea of how long the necessary repairs to Westminster Abbey will take,' and I can only reply, 'For ever.'

"The repairing of the Abbey buildings must have been continuous from the time when the scaffolding was struck, and it will necessarily continue to the end. It is not possible to apply any once-for-all policy; it is a question of constant attention and expenditure. All the great buildings of cathedral scale need repair year by year, and Westminster especially so, because of the acid and distintegrating nature of the London atmosphere, and also, perhaps, because of incessant vibration caused by heavy traffic.

"During the last century a very large aggregate must have been expended on even absolutely necessary repairs. The last heavy piece of work of this kind, completed only about two years ago, was the practical renewal, or rather re-renewal, of the external masonry of the south transept. This had been cased over about the year 1705, by the general advice of Wren, with new facing work. It was carefully done in a way, but the stones were very thin—only three and four inches thick, set on edge with practically no bond. I believe they called the process 'flagging,' and they must have trusted to the many necessary turns around the buttresses to give it stability. It answered wonderfully for about two centuries, and then it was found that it was 'coming away,' like a damp wall-paper from the solid work behind, and the damp was here also the cause. This thin and rotted skin had to be entirely removed—a work of difficulty, and indeed of danger—to be replaced by good, well-bonded masonry in Portland stone. As patches of this loose work were removed, the original faces of the thirteenth-century building thus revealed were found to be weathered into shapelessness. The original stone was from quarries at Reigate, and the facing had been executed in Oxfordshire stone. Neither of these will now stand the atmospheric conditions of big cities. Experience has shown that Portland stone, of which St. Paul's Cathedral is built, may best be trusted to resist modern London requirements. This stone has been used for all external repairs done during the last twenty years.

"At the present time the works more immediately requiring attention are the external masonry of Henry VII.'s Chapel, especially the clerestory, flying buttresses and turrets, and also the great western towers. Henry VII.'s Chapel was refaced about a century ago so completely that hardly one really ancient stone of the exterior remains. The interior, however, on the contrary, has fortunately been little touched, and remains authentic mediæval work. The external casing was very carefully done, but here, again, the stone was not of a kind and quality to stand long against the London air attack. Much of it is badly decayed, and projecting parts have fallen away.

"The great western towers, built about 1730-40, are of carefully selected Portland stone, which has stood admirably on the surface; but here, unfortunately, iron cramps and bars were used in the construction, with the consequence that as they rust they burst off parts of the external face, and fragments frequently fall. Any extensive repair to these towers will require heavy and costly scaffolding, thus greatly increasing the necessary expenditure.

"The parapets of open quatrefoils are in many places much decayed, but again these are not of original mediæval work. Indeed, it is true of the main fabric as of Henry VII.'s Chapel that hardly an original external stone remains, and some parts, such as these parapets, must have been renewed more than once. So far as I know, there is no immediately dangerous structural failure like the sinking of foundations or moving of the vaults, but it seems obvious that to keep the buildings in efficient order will require an ever-increasing expenditure.

"Besides the larger works such as those described, there is an even more constant stream of minor repairs, such as relaying worn pavements, keeping the lead roofs in condition, renewing broken glazing, and cutting out single stones which have perished."

[This authoritative statement is extremely valuable—as much for what it tells us concerning earlier restorations, as for the clear idea it conveys of the present condition of the Abbey.]

Architects' Fees for Housing Schemes

THE Minister of Health has had under consideration the question of the fees payable to architects and quantity surveyors in private practice for professional work in connection with State-aided housing schemes, and has decided that the scales of fees and the arrangements laid down in General Housing Memorandum No. 4, issued in September, 1919, shall be revised in certain respects. The revised scales have now been issued by the Minister in a Memorandum No. 31, set out below, and have been framed on the assumption that properly qualified members of the respective professions will be employed. No charge will be allowed in the Housing Assisted Scheme Accounts in respect of the preparation of schemes which are not approved by the Ministry of Health.

The revised scales of fees and conditions are to apply to all State-aided housing schemes where a contract for the constructional work has not been let at the date of this Memorandum, July 8. The scales will apply to every scheme, although two or more architects may be employed. In any case, however, of a scheme for over 250 houses in which the local authority or public utility society proposes to employ a single architect or firm of architects, the Ministry should be consulted before any arrangements as to fees are made. Save in exceptional circumstances, it is not desirable that any one architect or firm of architects should be entrusted with more than 250 houses in any one scheme.

The scales of fees cover the ordinary variations in type of house and such modifications as are made to avoid monotony in appearance, and are intended to include all necessary duties of an architect and surveyor incidental to the carrying out of the work, including such duties as are involved in complying with the requirements of the Ministry of Health. The conditions of engagements of architects and surveyors shall be those which are customary in the respective professions: for example, generally, such as the conditions prescribed by the R.I.B.A. and the Society of Architects in the case of the engagement of architects.

Revised Scales of Fees

I.—Architects.

(*a*) Preparation of Lay-out Plans.—For the preparation of a plan or scheme from existing maps, showing roads, builders' plots and buildings in block, including:

(1) Conferences with local authorities and their officials;

(2) Surveying, levelling, and preparation of contour plan;

(3) Lay-out plan (where necessary) to 1/2,500 scale;

(4) Detailed lay-out plan or plans to 1/500 scale; but exclusive of the preparation of detailed plans of buildings:

For twenty-five houses, £1 per house.

For a further seventy-five houses, 10s. per house.

For the remainder, 7s. 6d. per house.

In cases where the number of houses has not been determined, the fees shall be based on an average of ten houses per acre.

Where a fully contoured plan of the site is provided by the local authority, a deduction shall be made in respect thereof from the fees above stated of £1 per acre.

(*b*) Roads and Sewers.—For preparing working drawings, specifications and quantities for roads and sewers in accordance with the lay-out plans prepared under Section (*a*), advising on the same and on the preparation of contract, furnishing to the contractor one copy of the drawings, specifications and quantities, general supervision, issuing certificates, measuring up, passing and certifying the accounts:

For twenty-five houses, £2 per house.

For a further seventy-five houses, £1 per house.

For the remainder, 15s. per house.

(*c*) Cottages and Flats.—For taking instructions, preparing sketch designs, making approximate estimate of cost, preparing drawings and specifications, obtaining tenders, advising on tenders and on preparation of contract, selecting and instructing consultants, furnishing to the contractor one copy of the drawings and specifications, and such other details as are necessary for the proper carrying out of the works, general supervision, issuing certificates for payments, and passing and certifying accounts:—

(*a*) For schemes comprising any number of houses up to 250:

5 per cent. upon twelve cottages or flats.

2½ per cent. upon a further sixty cottages or flats.

1½ per cent. upon a further 178 cottages or flats.

(*b*) For schemes comprising 251 to 500 houses:

5 per cent. upon twelve cottages or flats.

2½ per cent. upon a further sixty cottages or flats.

1½ per cent. upon a further 178 cottages or flats.

Upon a further 250 cottages or flats the percentages stated in (*a*) less 7½ per cent.

(*c*) For schemes comprising 501 to 750:

5 per cent. upon twelve cottages or flats.

2½ per cent. upon a further sixty cottages or flats.

1½ per cent. upon a further 178 cottages or flats.

Upon 251 to 500 cottages or flats, the percentages stated in (*a*) less 7½ per cent.

Upon 501 to 750 cottages or flats, the percentages stated in (*a*) less 15 per cent.

(*d*) For schemes comprising 751 to 1,000 houses:

5 per cent. upon twelve cottages or flats.

2½ per cent. upon a further sixty cottages or flats.

1½ per cent. upon a further 178 cottages or flats.

Upon 251 to 500 cottages or flats, the percentages stated in (*a*) less 7½ per cent.

Upon 501 to 750 cottages or flats, the percentages stated in (*a*) less 15 per cent.

Upon 751 to 1,000 cottages or flats, the percentages stated in (*a*) less 20 per cent.

(*e*) For schemes comprising over 1,000 houses:

5 per cent. upon twelve cottages or flats.

2½ per cent. upon a further sixty cottages or flats.

1½ per cent. upon a further 178 cottages or flats.

Upon 251 to 500 cottages or flats, the percentages stated in (*a*) less 7½ per cent.

Upon 501 to 750 cottages or flats, the percentages stated in (*a*) less 15 per cent.

Upon 751 to 1,000 cottages or flats, the percentages stated in (*a*) less 20 per cent.

Upon the remainder the percentages stated in (*a*) less 25 per cent.

Limitation of Amounts upon which Fu scale Fees May be Charged.

The maximum amounts upon which fu scale fees in respect of cottages or fla may be charged are as follows:

Type of Cottage or Flat.	Max. Amount.
A2.—Non-parlour with two bedrooms	£750
A3.—Non-parlour with three bedrooms	850
B3.—Parlour with three bedrooms	950
B4.—Parlour with four bedrooms	1,050

Where the actual cost exceeds the abo maximum amounts, the fees payable the excess above the maximum shall n exceed one-third of the ordinary scale fe applicable in the particular case.

In all cases comprising one scheme, where the houses are situated on differe and distinct sites some distance apart a requiring separate supervision, the arc tect may charge in addition to the fees out above, and subject to the limitation the amounts on which full-scale fees m be charged, one-half per cent. on the c of each house erected on any such si containing not more than twelve houses

Method of Calculating Fees.

For the purpose of arriving at the c upon which the fees are to be calculat the average cost of the houses over whole scheme is to be taken. In determ ing the average, the cost to be taken i account in respect of any particular type cottage or flat shall not exceed the ma mum amount for that type stated ab plus one-third of any amount by which cost may exceed that maximum.

II.—Quantity Surveyors.

(*a*) For the preparation of bills of qu tities in respect of each separate site scheme, the charge to be based upon amount of the accepted tender, or, wh no tender is accepted, upon the estima cost of the work, subject in either cas the limitation hereinafter mentioned:

2 per cent. upon twelve cottages or fl

1 per cent. upon a further sixty cotta or flats.

3.5 per cent. upon a further 178 cotta or flats.

½ per cent. upon a further 250 cotta or flats.

⅛ per cent. upon the remainder.

Site and drainage work to be regarde appurtenances of the buildings.

Limitation of Amounts upon which F scale Fees May be Charged.

The maximum amounts upon which scale fees in respect of cottages or flats be charged are as follows:

Type of Cottage or Flat.	Max. Amour
A2.—Non-parlour with two bedrooms	£750
A3.—Non-parlour with three bedrooms	850
B3.—Parlour with three bedrooms	950
B4.—Parlour with four bedrooms	1,050

Where the actual cost exceeds the al maximum amounts the fees payable or excess above the maximum shall not ex one-third of the ordinary scale fees ap able in the particular case.

Current Architecture. 30.—The London Flying Club, Hendon

H. W. Matthews, M.S.A., Architect

Photos: Aerofilms, Ltd.

Some account of the objects which this club is designed to serve is given on page 71, together with a plan. The building is of reinforced concrete, with red brick outer walls and granolithic facings. The rain-water heads, some of which may be seen in the upper view, are castings from fine Georgian examples dated 1796.

UNIVERSITY OF ILLINOIS LIBRARY

AUG 16 1920

Method of Calculating Fees.

For the purpose of arriving at the cost upon which the fees are to be calculated, the average cost of the houses over the whole scheme is to be taken. In determining the average, the cost to be taken into account in respect of any particular type of cottage or flat shall not exceed the maximum amount for that type stated above plus one-third of any amount by which the cost may exceed that maximum.

In the case of any scheme for more than 2,000 houses where a single surveyor (or firm of surveyors) is employed, the local authority or public utility society carrying out the scheme should make a special agreement as to fees with the surveyor, subject to the approval of the Minister of Health.

(*b*) 2 per cent. in respect of administrative blocks and other unit (non-repeat) buildings such as laundries, repair workshops, etc.

(*c*) For alterations to and conversion of old buildings:

2½ per cent. where the accepted tender or the estimated cost does not exceed £5,000.

2 per cent. where the accepted tender or the estimated cost exceeds £5,000.

(*d*) Measuring and making up account of variations consequent upon alterations in design including foundations:

1½ per cent. upon gross amount of additions.

1 per cent. upon gross amount of omissions.

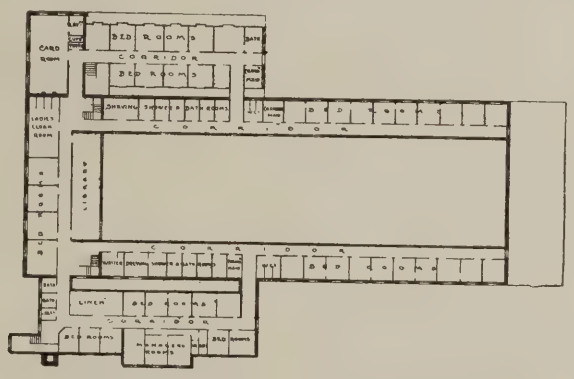
(*e*) Adjusting contract price consequent upon changes in cost of labour and checking and considering claims in respect thereof. 1½ per cent. upon the net amount of additions.

(*f*) Adjusting contract price consequent upon changes in cost of materials, and checking and considering claims in respect thereof: Where this work is done by the surveyor a special fee is to be arranged, not to exceed ½ per cent. in respect of the first 100 houses upon the gross cost of the materials dealt with, and ¼ per cent. in respect of any number of houses beyond the first 100 upon the gross cost of the materials dealt with. In the event of any difference as to the amount to be charged for this work, the difference is to be determined by the Minister of Health, whose decision shall be final.

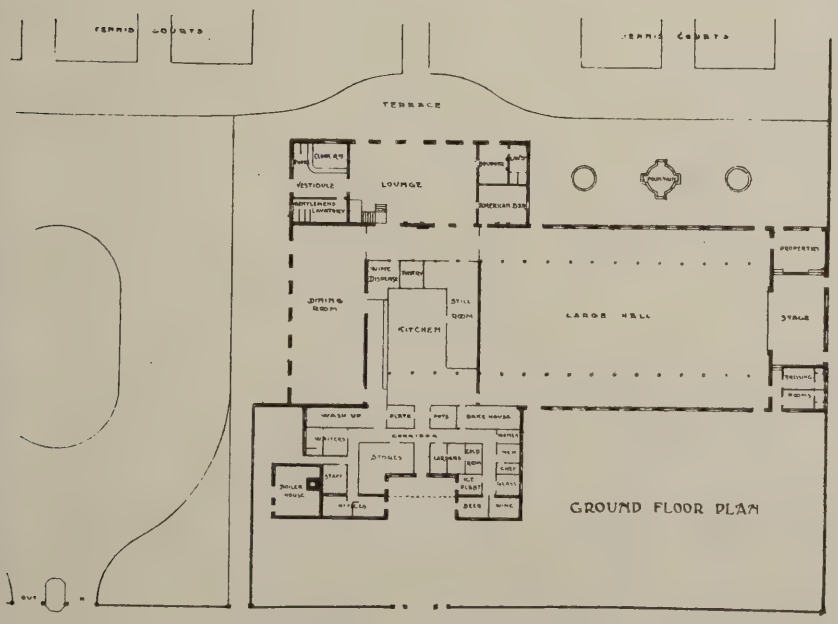
(*g*) For pricing out bills of quantities a special fee is to be arranged, and in the event of any difference as to the amount to be charged for this work, the difference is to be determined by the Minister of Health, whose decision shall be final.

The above scales of fees for quantity surveyors do not cover the making of calculations and preparation of statements for the purpose of issuing certificates, and are exclusive of all disbursements in respect of printing, lithography, and other out-of-pocket expenses.

SECOND FLOOR PLAN



FIRST FLOOR PLAN



LONDON FLYING CLUB, HENDON: GROUND- AND FIRST-FLOOR PLANS.

H. W. MATTHEWS, M.S.A., ARCHITECT.

The London Flying Club, Hendon

This club is a social and country sporting club, formed to promote and encourage flying and aerial travel of all descriptions, to which both ladies and gentlemen are eligible by ballot.

The club house contains, as a special feature, a ballroom and concert hall, equipped with a stage, and large enough to contain about 2,000 people. Over fifty bedrooms, electrically lighted, with exchange telephones, and each fitted with hot and cold water and steam heating, are available for gentlemen members. The club is furnished with a library containing a complete set of works on aeronautics. The kitchens and offices are exceptionally commodious and up to date, and provide all facilities for catering. There is a fine terrace, facing the club flying ground, and overlooking a number of *en tout cas* hard tennis courts. The private club aerodrome comprises about eighty acres.

The building itself is of reinforced concrete, with red brick outer walls and granolithic facings. The roof is of Broseley tiles and the rain-water heads shown on the elevations are castings from an old Georgian rain-water head dated 1796.

The building was carried out from the designs of Mr. H. W. Matthews, M.S.A.

The following contractors were engaged upon the work: The Grahame-White Co., Ltd., Hendon, Building Department (general construction, joinery, electrical equipment, decorations, and furniture), Thomas Shillito (the Johnson Paving and Construction Works), 7½, Thayer Street, W. (reinforced concrete columns and dressings, as well as granolithic, jointless, mosaic, and other pavings), Comyn, Ching, and Co., Ltd., 54, Castle Street, W.C.2 (heating and cooking apparatus, refrigerating plant), G. and A. Brown, Ltd., 167, Hammersmith Road, W. (fibrous plaster decorations), The En-Tout-Cas Co., Ltd., Syston, Leicester (hard tennis courts), Colt Allison and Mackenzie, Leeds (golf course architects), and Leolyn Hart and Co., scenic artists (theatre stage, etc.).

The Concrete Institute

By the kind consent of Mr. C. R. S. Kirkpatrick, chief engineer of the Port of London Authority, the Concrete Institute have paid a visit to the new river jetty at Tilbury. Among those present were Messrs. E. Lawrence Hall, R. Graham Keevill, A. E. Marshall, J. Petrie, O.B.E., R. W. Vawdrey, Lawson S. White, M. E. Yeatman, and the Secretary (Captain P. L. Marks), together with Messrs. Bradbeer, Nicholson, and Captain J. Wynne-Harley.

On arrival at the offices Mr. Nolans (resident engineer for the new works) met the party and guided them over the jetty, explaining the principal points of interest.

The work consists of a main jetty 1,000 ft. long by 50 ft. wide parallel to the shore, and a curved viaduct 900 ft. long, carrying the railways from the main jetty to the shore, where they are connected up through the dock lines with the general railway system of the country. The main jetty is a double-decked structure, the space between the two decks forming a transit shed. The lower deck is about 6 ft. above high-water level. Access to the transit shed is provided by hatchways through the upper deck. The whole of

this structure is carried on cylinders sunk generally two feet into the ballast, which occurs about 40 ft. below ordnance datum. Clusters of piles are driven in the cylinders, which are then filled up with concrete. Electric cranes of 60-ft. radius to lift two tons are provided on the river side of the jetty for handling the cargoes of ships; cranes of 40-ft. radius are provided on the landward side of the jetty to deal with the loading of barges, for which accommodation is provided at the back of the jetty. There are two lines of rails with cross-over roads on the upper deck.

The main feature of the approach viaduct is a reinforced concrete bow-string bridge, to provide access for barges to the back of the jetty. As the bridge (whose span is 100 ft.) is on the skew the bow-strings are "staggered." Each bow-string weighs about 150 tons. There are over eighteen tons of reinforcing steel in each bow-string. The dead weight of decking carried by each girder is about a further 150 tons. Part of the viaduct is built on cylinders in the same manner as the main jetty, but as the shore is approached the construction is changed to piles.

Mr. Nolans also conducted the party to inspect the reinforced-concrete dock gates erected a short time since at the docks. Mr. H. J. Deane has promised to embody some notes about these gates in a paper to be read before the Concrete Institute during the session 1920-21, and has already presented some interesting photographs of these works.

A vote of thanks to Mr. Nolans and his assistants was proposed by Mr. Yeatman, seconded by Captain P. L. Marks (secretary) and carried with acclamation.

Land for Acton Houses: Arbitrator's Award

Mr. Howard Martin, the Official Arbitrator, has issued his award in the claim by Major F. W. King-Church, amounting to £58,854, in respect of the compulsory acquisition by the Acton Urban District Council of 58 acres, 3 roods, 17 perches of land, known as the Acton Wells Estate, for housing purposes. The case came under the Acquisition of Land (Assessment of Compensation) Act, 1919, and it was stated that the land had lately been used as a golf course.

Evidence in support of the claim was given by Mr. F. Cooper Clarke (of Messrs. Debenham, Tewson, and Chinnocks) and Sir Alexander Stenning, architect and surveyor. On behalf of the Urban Council, Mr. G. S. Wain, district valuer of the Inland Revenue, valued the land at £29,665 if used for residential purposes, and at £24,000 if used for factories.

Mr. Frank W. Hunt, chief valuer of the London County Council, said the price paid by the authority for the Old Oak Common Estate, situated in the district, and having an area of 54¼ acres, was at the rate of £550 an acre. It was purchased from the Ecclesiastical Commissioners in 1905, and the Ecclesiastical Commissioners, through their surveyor, always held the view that they were giving the County Council special terms because the land was for housing.

The Official Arbitrator's award is as follows: "That the acquiring authority is to pay the claimant the sum of £33,000, and I order the claimant to pay the costs of the acquiring authority."

A Suggested National War Memorial

Extraordinary interest is being taken by members of Parliament, says "The Times" Parliamentary Correspondent, in a design for a national war memorial executed by Sir Frank Baines, Principal Architect of the Office of Works. Major Henderson asked the Government recently whether the design could be placed in a room of the House for the inspection of members, and Sir Alfred Mond has now complied with his request.

The memorial, which is designed for a commanding position at Hyde Park Corner, is in the form of a gigantic pylon with two flanking temples. The style of the design is Egyptian, the artist evidently feeling that the Egyptian period is the most suitable for immense scale and grandeur.

On each side of the great pylon two broad stairways approach and pass through the two flanking temples at its sides, and by a platform sweep round the back of it and into its great arch. An immense bas-relief marches up parallel with the stairways on each side through the flanking temples and into the great arch of the pylon, and on it are figured the outstanding incidents and lessons of the effort of the British Empire in the war. From the bas-reliefs as they enter the arch of the pylon there fly upwards to the mighty lintel of the arch the disembodied spirits of the dead, pouring over the edge of the lintel 100 ft. from the floor to the face of the pylon in immense cloud-forms, which in turn are surmounted by a great frieze on which a gigantic symbol of Immortality is carved. At the base of the pylon a single bronze figure of a youth is placed, looking upward at the flying forms of the dead, typifying our new manhood learning the lesson of the sacrifices of the race in the war.

The accompanying reproduction is given by courtesy of "The Times."

The following letter has been addressed by Mr. John W. Simpson, P.R.I.B.A., to the Editor of "The Times":

Sir,—With grief and indignation I learn from your Parliamentary Notes of the proposal that H.M. Office of Works should design the National War Memorial. Are the architects who gave up all to fight for us already forgotten, that they are to be allowed no opportunity to concentrate their talent to the memory of their fallen comrades?

I make no reflection on the design placed before the House of Commons, of which I know nothing beyond the description you publish—still less do I belittle the ability of its author—but I protest very earnestly against employing a Government Department to produce the monument which above all others, should represent the finest art of our country. Its designer should be chosen with the utmost care, and his merit proved by work submitted in public competition.

Houses or Barracks?

The proposals which involve the erection of nearly 1,000 houses around Aylesbury are jeopardised by the decision of the Air Ministry to build barracks at Halton Camp, which will have the effect of diverting skilled labour from Aylesbury and possibly High Wycombe. A deputation of the local councils and Aylesbury builders has visited the Air Ministry and pointed out that the contracts for the houses had now been sent to the contractors, who were required to erect the first 100 houses in six months. But the builders had pointed out that they could not undertake this if the building at Halton Camp was continued, having regard to the more advantageous terms offered there. The men at Halton, it was stated, were paid net time and walking time, which is contrary to the rules of the Builders' Federation. The erection of the barracks may possibly be delayed.

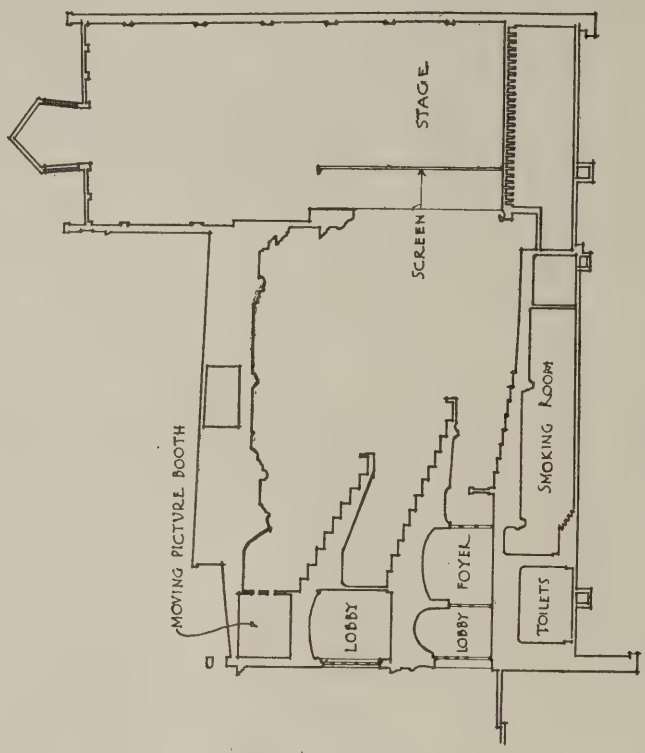
SUGGESTED DESIGN FOR A NATIONAL WAR MEMORIAL.

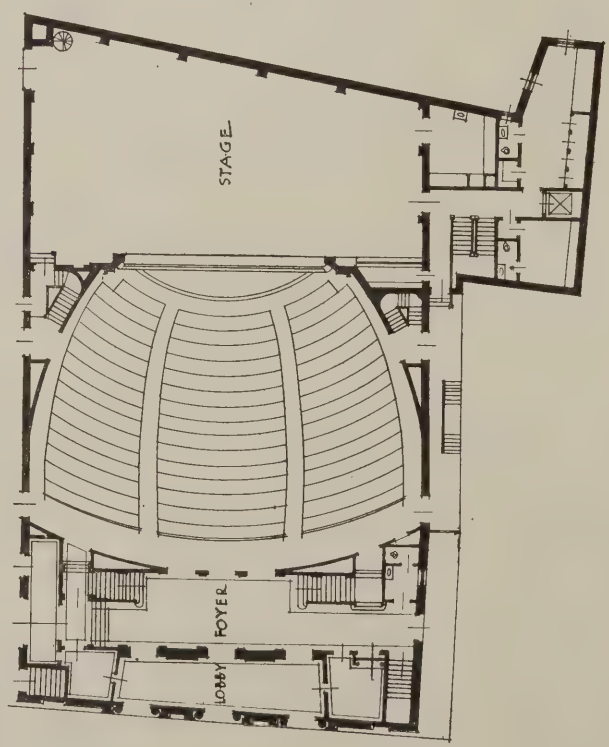
BY SIR FRANK BAINES, PRINCIPAL ARCHITECT, H.M. OFFICE OF WORKS.

UNIVERSITY OF ILLINOIS LIBRARY

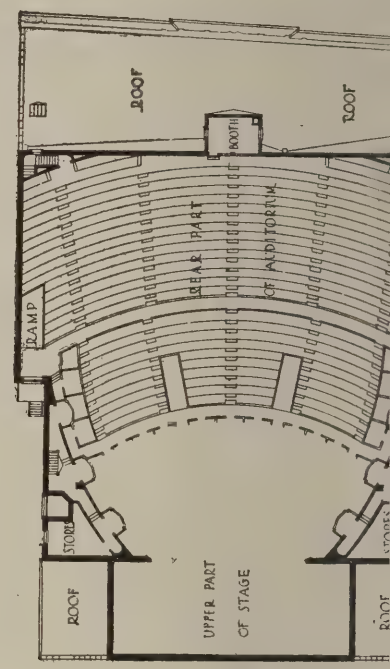
AUG 16 1920

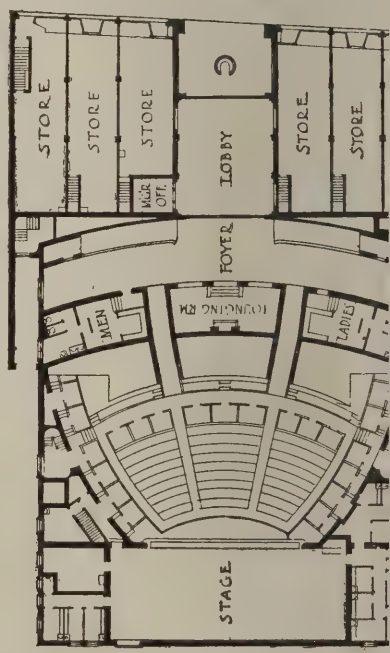
Current Architecture. 31.—Typical Plans and Sections of American Cinema Theatres.

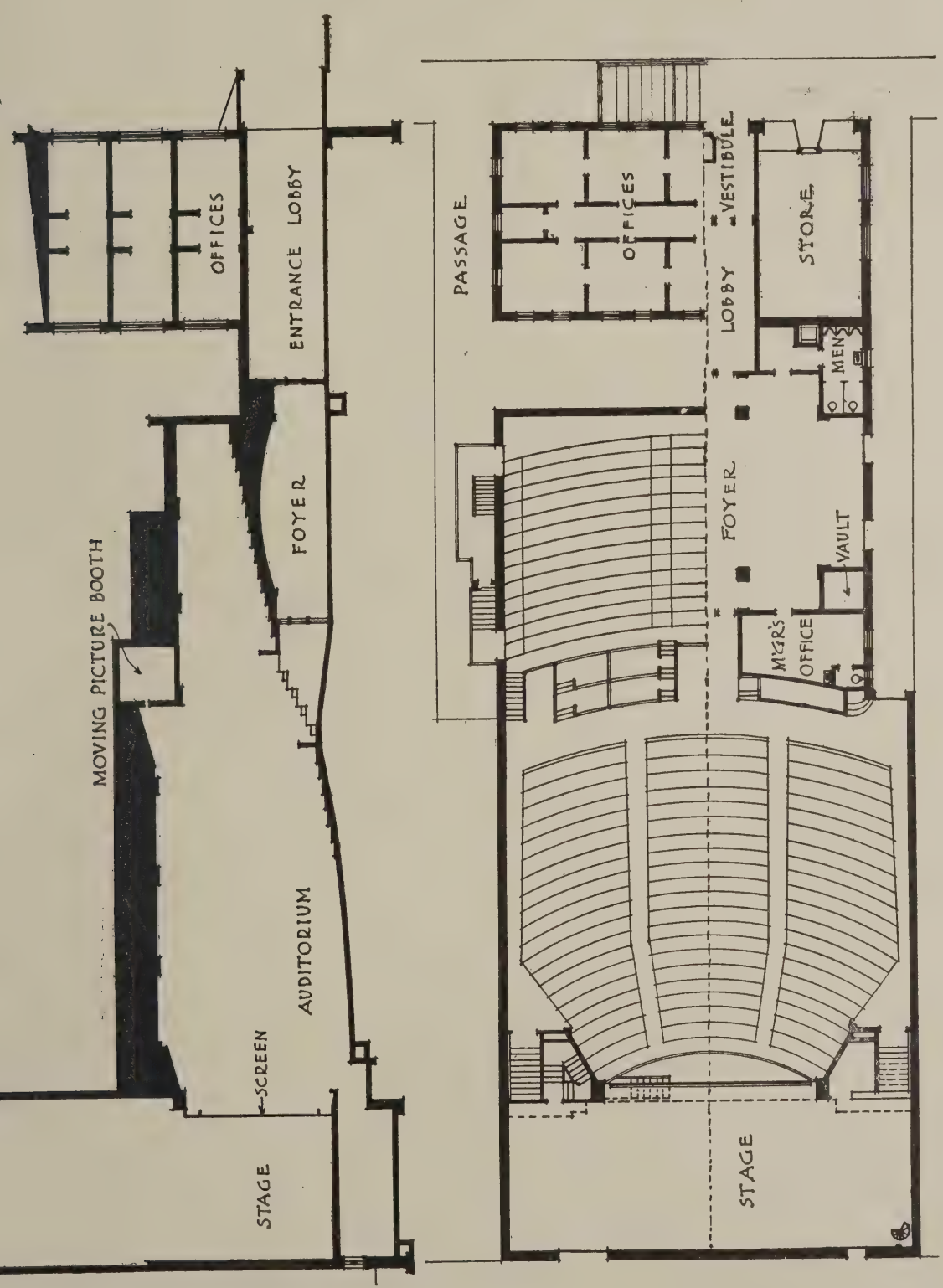




Ground-floor Plan and Section of the Multiple Division Type of Cinema Theatre.







Ground-floor Plan and Section of the "Bleacher" Type of Cinema Theatre.

The principles underlying the planning and design of cinema theatres in the United States are more fully set forth in the article which appears on page 77. The illustrations above show two characteristic types, known respectively as the "Multiple Division" and the "Bleacher."

UNIVERSITY OF ILLINOIS LIBRARY

AUG 16 1920

The Planning of Cinema Theatres

A COMPARISON between the two types of picture theatre plans, the "bleacher," or single division, and the "multiple" division, illustrated on pages 74 and 75, shows some interesting phases of the cinema problem. The "bleacher" type shown is adapted primarily to inexpensive property, such as suburban property, or where the maximum seating capacity with the least possible cube of building is desired. In this type there is no balcony or gallery, the floor from the orchestra pit to the back row of seats being practically one continuous sweep.

The rear section is raised at a steeper pitch than the usual gradients allowed in aisles, to accommodate lobbies, vestibules, foyers, cloak-room, check-room, etc., underneath.

The "Bleacher" Type

In this plan the entrance to the auditorium comes approximately in the centre of the interior, so that all seats throughout are equally accessible. The entrance from the street to the lobby may or may not be in the centre. To those who have never considered the differences between the developments of the two plans, the following cubes and particulars given by Mr. Charles A. Whittemore in the "Architectural Forum," of America, should prove interesting. The bleacher theatre proper covers 8,900 sq. ft. on the ground and has a seating capacity of 1,400 seats. The total cubical contents, including the basement under the stage and the stage, as well as the entrance lobbies, etc., is 429,500 cubic feet, which is approximately 193 cubic feet per seat. The multiple division type has a seating capacity of 1,400 seats also. The area in this particular case is 9,500 sq. ft. Both theatres are furnished with a completely equipped stage of the same general character, the seats are of the same general type, and the equipment throughout is almost identical in so far as relates to the various parts included in the theatre construction. The bleacher type shows not only the same seating capacity at a very much less expense, but also an infinitely better auditorium from the standpoint of acoustics, ventilation, and sight lines.

It also has an additional advantage in that the administration is very much simplified, requiring fewer attendants and affording greater ease in handling the patrons.

There are certain sites to which this type is not applicable. For example, in a piece of property in the central part of the city where the land values are high and where, in order to show a good development and a satisfactory return on the investment to the owners, it is necessary to develop to the limit each square foot of property. In this instance the multiple division type would be far more applicable. It is easy to see that within a given area the number of seats to be obtained can be far greater in the type using balcony and gallery than in the so-called bleacher type.

The name "bleacher type" is a misnomer and immediately creates in the mind an idea of a house roughly divided into two classes, similar to the orchestra floor and the gallery of another type of house. This, however, is not the case with the type shown, as the seats throughout the entire section are equally desirable and the vision from one seat is as good as that from any other. This is obviously not always true of the other type shown.

In many of the theatres throughout the U.S.A. and Canada in recent years the bleacher type has been developed quite extensively. The Regent Theatre, Pittsburgh, the Majestic Theatre in Detroit, Keith Theatre in Montreal, are on this same general plan.

There is a tremendous advantage in the bleacher type over any other type of construction with the exception of the plain single-floor house. The elimination of large fabricated girders and expensive riveted columns, and of large unsupported spans in the construction of a balcony in the multiple type of house, as well as the shortening of the spans and girders in case of a second-class constructed house, are points of particular interest in the examination of the relative merits of the two types illustrated. In many cases of this type of construction the spans may be longer as far as distance between the walls is concerned, but even where this condition prevails, the only construction necessary to make the complete span without obstructions is in the roof, and here light iron trusses can be used, arranged in such a way that the exterior walls need not be carried to the level of the top chord, which, as can readily be seen, reduces materially the cost of construction. The construction of the rear portion of orchestra floor can be carried out on the supports, which may be easily provided for through the room arrangement, etc., and through the lobbies which occur directly beneath.

Cloak-rooms and Offices

The bleacher type shows a plan which can easily be developed so as to have cloak-rooms as well as manager's office, usher's rooms, etc., opening on the foyer, but located in the less valuable space under the overhead seats.

In the multiple division type this is manifestly impossible and necessitates provisions elsewhere for these conveniences. These rooms in the majority of the theatres of this type are placed either in an extension of the building, in the mezzanine floor, or in the basement, and in either case necessitate far greater expense as to construction than if placed as shown in the other plan. The other locations also are not so convenient or accessible, and it has been a matter of serious study for managers of various picture houses to provide properly for women's cloak-rooms, rest-rooms, and toilets, and a cloak-room, retiring-room, and toilet for men for the various divisions of the house. Where there is but one division, and where the patrons are all on the same plane, the problem is obviously simplified.

In case of the location of the women's rooms and general lobbies in the basement, as must necessarily be the case where an extension to the theatre front may not be possible, the construction below the ground is of considerable expense, as in many instances it means excavation to such depth as to require the use of waterproofing methods. The bleacher type requires no elaborate lay-out or expensive construction in the basement, and simple provisions for heating plant, coal, and janitor's closet are all that need be arranged to meet ordinary demands.

Theatre managers nowadays are insistent upon keeping the people as close to the ground as possible, as they say it is almost impossible to make their patrons climb stairs. For this reason a large number of the more modern motion picture houses have been constructed with but a single balcony instead of the usual two balconies; but this type does not so readily meet the approval of the patrons occupying the rear seats as the bleacher type. Here it will be readily seen that when all the patrons use a common entrance to the auditorium proper, the effort necessary to reach the rear row of seats at the upper level is no greater than would be required in going from the front to the rear of a balcony, and in addition the patrons are spared the necessity of climbing stairs up to what would be the first row of seats in the balcony in the multiple division type. It will be seen, therefore, that the advantages of administration, convenience to patrons, and economy of construction are all on the side of the single-division type where such a form of building can be economically placed.

Angles and Distances

The position of the motion picture booth is of vital importance. The angle of the ray of light, the distance of the projector from the screen, the arrangement of the apertures, the location of the booth with reference to the seating levels—all must be carefully studied and properly correlated in order to ensure satisfactory results.

The vertical ray of light should never be greater than 25 deg. from a horizontal line taken at the centre of the picture screen. This angle determines the relation of the picture booth to the seating levels and immediately establishes a zone beyond which the booth should not be placed. The lateral angle also must be maintained within the same limits. Usually the booth is located almost directly opposite the centre of the screen, and as a result the lateral angle does not enter into the problem.

In the multiple division type of house the booth is frequently placed at the upper balcony level or at the gallery level. In many instances this may be productive of satisfactory results. If, however, the auditorium is so arranged as to have a number of rows of seats in both balcony and gallery, the angle of the ray of light from the upper level is quite likely to exceed 25 deg.

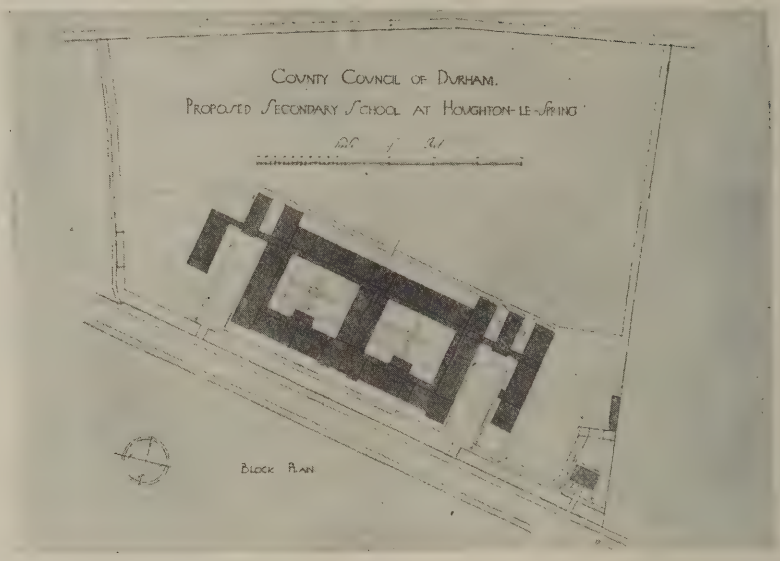
In the single-division type of house the angle from the level of the highest row of seats would hardly be more than 15 deg. In speaking of the level with reference to the seats, it must always be borne in mind that the lowest aperture level should be not less than 7 ft. above the seat level, so that patrons walking into the seats will not interfere with the light rays. There is another position which has been frequently adopted with considerable success, and that is directly over the seats in the balcony of the two-division house or in the ceiling of a single-division house.

In the case of the reference to the single-division theatre (pages 74 and 75) the angle

of the average ray of light to the centre of the screen is approximately 18 to 20 deg. Assuming that the light conditions and the construction and the mounting of the machine are correct, such a location would be a guarantee of satisfactory picture projection. One can readily see the difficulty attendant upon an attempt to locate a projecting machine in the same relative position in the multiple division type of house.

It is always possible in any type of theatre to arrange the motion picture booth at the rear of the auditorium. This can be accomplished by projecting beyond the rear wall with the construction of the booth or by constructing the booth entirely within the theatre. In the first case, there is no loss of seats, but the construction is expensive. In the second case, the construction is inexpensive, but there is a considerable seat loss. This point is one which must be carefully weighed as to whether the income from the seats will give a sufficient return upon the added investment due to the expensive construction of the booth outside the walls or whether it is better to sacrifice the seats.

If the booth be placed at the rear of the auditorium and the auditorium be so arranged that the depth is, say, 150 ft. from the screen, the additional expense due to the increased intensity of the light necessary to give a clear projection is an item which materially affects the maintenance cost. In the single-division type of house, with the booth over the ceiling, as shown in the illustration, these considerations are not of particular importance, as the length of the projection can be readily arranged within the 25-deg. limit, and in no case except under extraordinary conditions need length of throw of the ray of light be more than 90 ft.

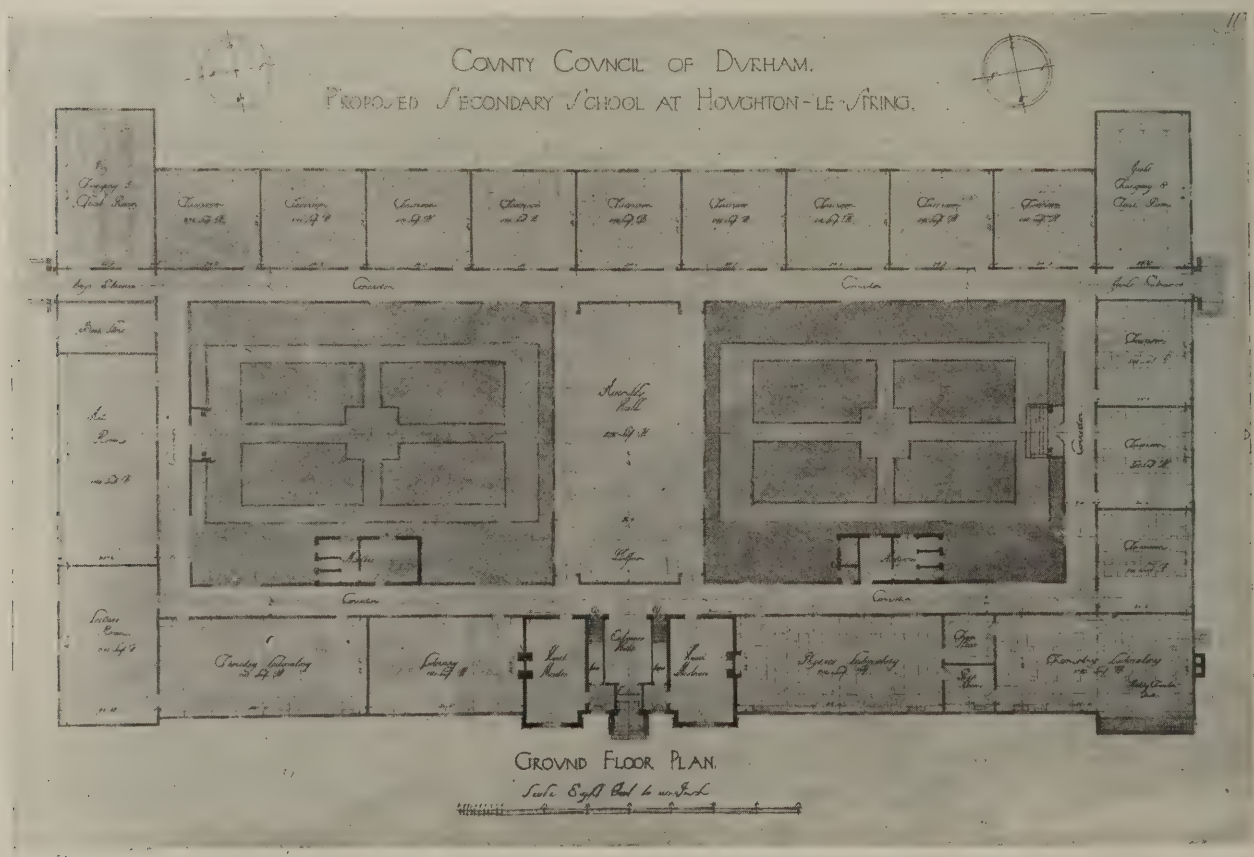


BLOCK PLAN OF FIRST PREMIATED DESIGN.

Houghton-le-Spring School Competition

The awards in this competition were announced last week. In this issue we illustrate the first premiated design, by Messrs. R. S. Phillips and R. V. Taylor, of Hucclecote, near Gloucester, concerning which the assessor states: "The authors suggest a light standardised structure framed with steel and timber sections, which may rest on a light concrete foundation reinforced as a precaution against the effects of subsidence. The external walls are specified with an external covering 2 in. thick of cement set on metallic lathing and on the inner side of the cavity being lined with asbestos sheeting. The caretaker's house and certain portions of the buildings are of brickwork. The sloping roofs are tiles. The flat roofs are thin reinforced concrete, covered with asphalte. The author considers the effective life of the structure to be at least forty years, and the period of its erection as twelve months.

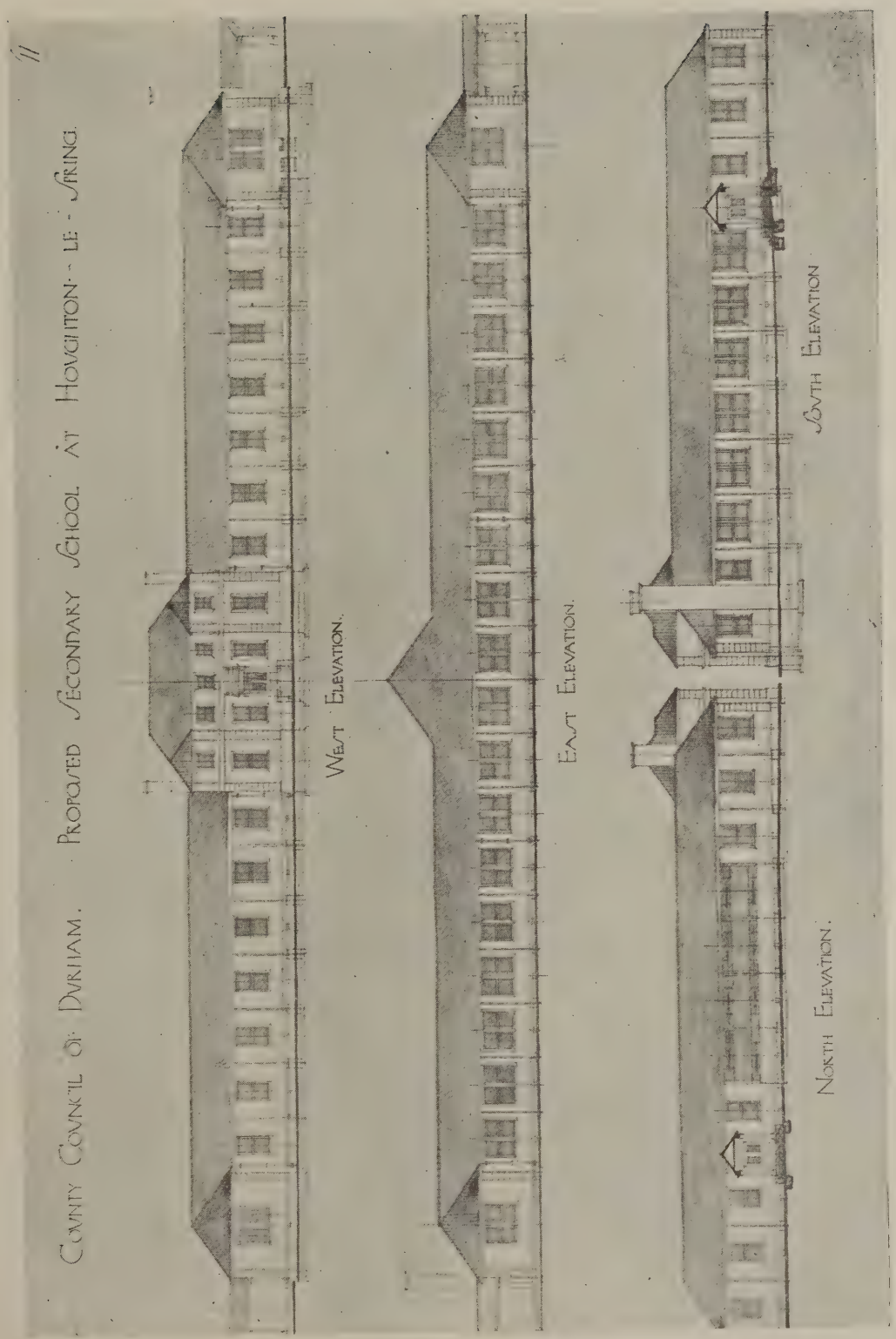
"The position on the site for the buildings is carefully chosen. The general arrangement of the buildings is good. The school is well-lighted and well-ventilated. The class rooms are away from the high road and gain the whole morning sun.



HOUGHTON-LE-SPRING SECONDARY SCHOOL COMPETITION: FIRST PREMIATED DESIGN.
R. S. PHILLIPS, M.S.A., AND R. V. TAYLOR, A.R.I.B.A., ARCHITECTS.

Current Architecture. 32.—Houghton-le-Spring Secondary School Competition: First Premiated Design

R. S. Phillips, M.S.A., and R. V. Taylor, A.R.I.B.A., Architects



In his report on this design the Assessor, Mr. F. Willey, F.R.I.B.A., states: "The general arrangement of the buildings is good. The school is well lighted and well ventilated; there is ease and freedom in the planning; the construction is simple, and the care for the appearance of the building promises well for the finished product." The Assessor's full awards in this competition were announced in our last issue.

UNIVERSITY OF ILLINOIS LIBRARY

AUG 16 1926

Competition News

For list of competitions open see last week's issue.

Woking War Memorial Competition.

The Competitions Committee of the R.I.B.A. desire to call the attention of Members and Licentiates to the fact that the conditions of the above competition are unsatisfactory. The Competitions Committee are in negotiation with the promoters in the hope of securing an amendment. In the meantime Members and Licentiates are advised to take no part in the competition.

War Memorial, Hamilton, Bermuda.

The Board of Public Works, Bermuda, invite architects to submit designs in competition for a war memorial to be erected in front of the Public Buildings, Hamilton. Premiums of £50 and £25 respectively will be awarded for the two designs placed first and second by the assessors.

The drawings submitted shall include the following: (1) 1/4" site plan, (2) 1/4" elevations of the memorial, (3) 1/2" details, plans and sections necessary completely to explain the design. Perspective sketches may be included.

In addition, a short, type-written report shall be submitted giving (1) information regarding the design which cannot be shown or indicated on the drawings; (2) descriptions of materials; (3) detailed estimate of cost.

Each design must be sent in under a motto and accompanied by a sealed envelope containing the name and address of the author and marked on the outside with similar motto. All designs must be delivered at the office of the Colonial Secretary on or before August 21 next and marked "Plans for Memorial."

The total cost of the memorial is not to exceed £1,000. It is to consist of a stone monument simple in design, of granite or other hard and durable stone, of such form as to be in keeping with its surroundings, and bearing an inscription, in bronze, expressing the appreciation of the people of Bermuda of the sacrifice and efforts of the sons of the Colony who were employed on active service during the Great War, and recording the names of all who were killed.

Photographs and descriptions of site will be furnished to competitors on request. Further information may be had from E. A. McCallan, Acting Colonial Surveyor, Colonial Surveyor's Office, Hamilton.

Peterborough Hospital Extension.

The time for sending in designs for this competition has been extended to July 31.

Correspondence

The R.I.B.A. and Luxury Building

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—An announcement was published recently of the decision of the R.I.B.A. to convene a public meeting of protest against the restriction of so-called luxury building, at which architects, surveyors, engineers, contractors, and captains of industry were to be represented.

Can you inform your readers, whose very existence is involved in this question, what steps the Institute have taken to redeem its pledge?

WAIT AND SEE.

Architectural Education

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Everyone interested in the progress of architectural education must have read Mr. Budden's article in your issue for last week with satisfaction, but I am sure they will be interested to know that Liverpool's Five Years' Course is not altogether a new thing in this country, as the A.A. instituted a similar course at its schools last year, and has already had the benefit of one session's experience with the course. I know this statement is rather contrary to what Mr. Budden says with regard to Liverpool being first in the field with such a course, but I am sure, with these facts before him, he will give us the credit of being at any rate one year in advance of Liverpool this time!

F. R. YERBURY,
Secretary Architectural Association

Welwyn Garden City

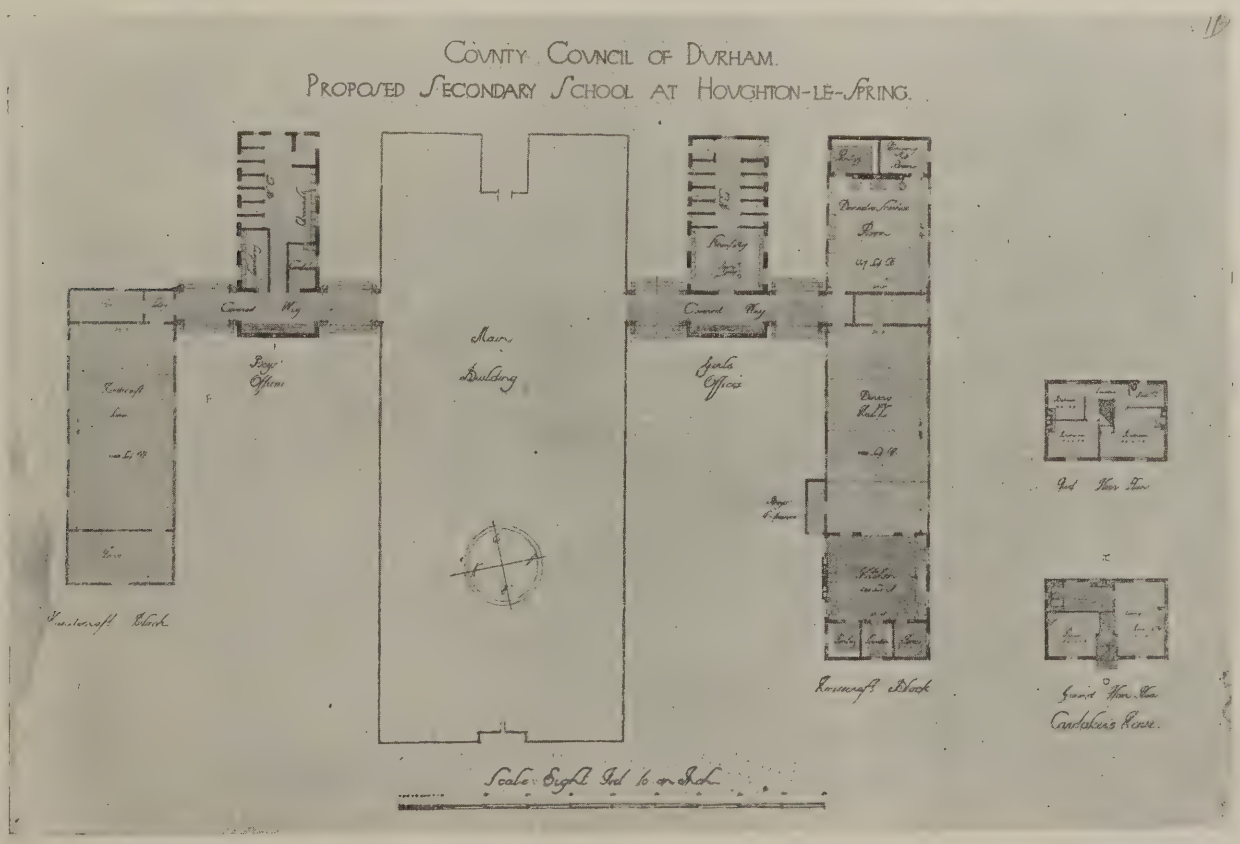
To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—In a recent issue you have the following note:—"A plan of the new garden city, which has already been laid out from the designs of Mr. de Soissons, appeared in our issue for June 23."

Please allow me to point out that the plan which you published was that of the lay-out of the "Daily Mail" Ideal Village site, which forms only a small part of the Welwyn Garden City. The complete plan of the town, which will be a residential industrial town of 40,000 to 50,000 people, has not vet been published.

F. J. OSBORN,
Secretary.

Welwyn Garden City, Ltd.



HOUGHTON-LE-SPRING SECONDARY SCHOOL COMPETITION: FIRST PREMIATED DESIGN.

R. S. PHILLIPS, M.S.A., AND R. V. TAYLOR, A.R.I.B.A., ARCHITECTS.

National Federation Half-Yearly Meeting

The half-yearly general meeting of the National Federation of Building Trades Employers will be held in the King's Hall, Armstrong College, Newcastle-on-Tyne, on Wednesday, July 28, at 10.30 a.m., to deal with the following business.

Agenda

1. Notice calling the meeting.
2. Minutes of last annual meeting, held January 28, 1920, and business arising (if any).
3. Interim report.
4. Consider recommendations (if any) from preceding day's Council on the following matters, and resolve thereon:

(*a*) As to proposals now under consideration of the National Confederation of Employers' Organisations for co-ordinating wages and conditions as between various industries.

(*b*) As to the advisability of the National Federation of Building Trades Employers withdrawing from the National Conciliation Scheme.

(*c*) As to the dispute in Sheffield between building trade operatives and the Corporation in its effect on our members having contracts in hand for the Corporation.

(*d*) As to the report of the Administrative Committee on Organisation at headquarters.

(*e*) The proposed National Wages and Conditions Council for the Building Trades.

(*f*) As to the lack of apprentices.

(*g*) As to the desirability of increasing the working hours in summer to 49½, as suggested by the Midland Federation.

(*h*) Any other recommendation from the Executive Council.

5. Next meeting.
6. Such other business as may be presented by the President.

Following is the programme for the forthcoming meetings:

TUESDAY, JULY 27.

10.30 a.m.—Meeting of the National Executive Council, in the Prince of Wales Room at the County Hotel, Newcastle-on-Tyne.

6.45 p.m.—Civic banquet at the County Hotel, where the members of the Council will be the guests of the Lord Mayor (Councillor Walter Lee, J.P.) and the Corporation of the City of Newcastle-on-Tyne.

WEDNESDAY, JULY 28.

10.30 a.m.—General meeting in the King's Hall, Armstrong College (by kind permission of the Principals of the College). The Lord Mayor will attend and welcome the delegates at the commencement of the meeting.

7.30 p.m.—Civic reception, in the Laing Art Gallery, of members of the Executive Council of the National Federation, the delegates attending the general meeting and their ladies, and the members of the local associations affiliated with the Northern Counties Federation of Building Trades Employers and their ladies. The guests will be received by the Lord Mayor of Newcastle (Councillor Walter Lee, J.P.) and the Lady Mayoress (Mrs. Lee) from 7.30 to 8.

8.15 p.m.—A presentation on behalf of the members of the Northern Counties Federation of Building Trades Employers will be made to Councillor Stephen Easton, O.B.E., J.P., by the President of the Northern Counties Federation, Mr. Stanley Miller.

THURSDAY, JULY 29.

The members of the National Council and the delegates to the National General Meeting and their ladies are invited to spend the day as the guests of the members of the local associations affiliated with the Northern Counties Federation of Building Trades' Employers and their ladies. The arrangements are as follows:

9.30 a.m.—National Executive Council and national delegates and their ladies will embark at the quayside for trip down River Tyne to Tynemouth, whence they will return by electric train to Newcastle, and will travel by tramcar to Jesmond Dene; or

9.30 a.m.—Will join motor chars-à-bancs outside Central Railway Station, Newcastle-on-Tyne, for run, by way of Heddon-on-the-Wall, Harlow Hill, Matfen Piers, Matfen, Fenwick, Stamfordham, Dalton, Ponteland and Kenton, to Jesmond Dene.

1.15 p.m.—The guests will be set down in Jesmond Dene, where they will be received by the President of the Northern Counties Federation (Mr. Stanley Miller) and Mrs. Miller for lunch in the banqueting hall, or in the marquee in the recreation ground in the Dene.

Enquiries Answered

Effect of Pigments on Cement.

VERITAS writes: "What is the effect of pigments on cement? I should like to obtain a warm brown colour for stucco, and am anxious to know what pigments should be used and in what proportions."

—Stucco may be coloured by mixing any earth colour with it before application; or, if the work is old, by painting it with an oil paint, the pigment of which is also an earth colour. A series of browns may be obtained by using Indian red or Venetian red with ochre and lamp-black. The proportions cannot be given, but a little experimenting will give the desired information on this point. Burnt sienna and umber may also be used. All the colours named are earth colours, excepting the black; none of them will be affected by the cement. Light brown is produced by using sienna (burnt) and French ochre, with the addition of pure zinc oxide, if required, for lightening the mixture.

Hot Air in a Chimney.

J.S., Leicester, writes: "The flue of a kitchen range makes the brickwork dangerously hot on the first floor and very warm on the second floor. Would it be possible to line the flue outside with asbestos? If so, with what kind? The range is of the ordinary 5 ft. type, and works perfectly. The flue, which is 4½ in. with 9 in. back, and built of red wire cuts, is perfectly clean and clear. The first and second floor fireplaces are immediately over the range, and the flue is practically straight up to the roof, where it is carried over 2 ft. to avoid a valley. The angle of carrying over cannot be too sharp as the rods go up easily."

—There is evidently some portion of the flue which prevents a proper draught and bottles the air. The flue can certainly be covered with an asbestos mixture similar to that used for covering boilers. An alternative method might be tried, if possible, of making an outlet above where the flue is carried over to miss the valley.

Progress of the General Electric Co.

Mr. Hugo Hirst, chairman and managing director of the General Electric Company, Ltd., speaking at the annual general meeting on July 13, gave a definite picture of the aspirations of the company and the results so far achieved. The system of generous reserves and depreciations, he said, which had at all times been practised, and the modest dividends that had been declared during the first decade of their existence as a company, in spite of considerable earning capacity, had contributed to give solid foundations, of which they were now reaping the benefit. It was only towards the end of the war, and particularly since the armistice, that the real process of expansion commenced, and at the rate at which they were going on the process was likely to last for some years. He took the opportunity of referring to the late Sir Edward Holden, of whose personal friendship he was ever proud, and who was a staunch believer in the possibilities of the company.

Whilst aiming at covering, in due course, the whole field of the electrical industry, they had up to the present concentrated their efforts mainly on strengthening the existing sections which they already represented. They acquired some years ago the firm of Fraser and Chalmers, whose reputation for turbines and turbo blowers was second to none. The G.E.C. had made provision for doubling the output, and the work was nearly completed. They were also about to extend considerably the mining machinery department, for which this firm had a great reputation. This policy brought along the necessity for increasing the output on the electrical side at Witton. For large generators a big bay has been erected; a new building for switchgear was in course of construction. New shops for fans and small industrial motors had been laid down and, although the programme would double their electric plant output, considerable additions would have to be made if, in due course, they were asked to take a share in the electrification of railways, in the development of the hydro-electric plant, the laying down of big power stations, and a more generally extended application of electricity in the industrial field. They were studying the utilisation of every ounce of water power, so that they may be made independent of coal. Before long they hoped to double the output of electric lamps. The new buildings at Hammersmith for this purpose are approaching completion. The glass works at Lemington had been largely extended in order to feed the increased lamp works and automatic glass blowing machines under the Westlake patents had been installed.

Fixtures, accessories, heating and cooking apparatus works had all suffered through conditions of war, but new buildings and equipments had been provided and these departments were again showing a pleasant upward curve. The lamp black works, which were originally started as an accessory to the carbon works, had also shown great vitality and adaptability. The Pirelli-General cable works had been extended, and considerable additions were again in progress. Some 100 acres of land and some factories had been acquired at Wembley for the greater development of the general engineering works, the lamp and glass industries and the research laboratories

buildings for which were in process of erection. Very big extensions were contemplated with the Peel Conner works, which were practically owned by the company. They had also provided for the Peel Conner works the necessary capital for erecting entirely new additional works at Coventry, and had also acquired considerable interest in a French telephone company, who would use the patterns and patents of the G.E.C. for the purpose of building up a telephone business in France.

Engineering Formulæ

With a view to cheapening the cost of printing mathematical equations and to facilitating the reproduction of mathematical equations on the typewriter, the Concrete Institute have recently suggested that those writers who employ: (1) the high point as the decimal separatrix (Example 3·7 = 3 + seven-tenths), (2) the middle point as the sign of multiplication (Example m·r = m multiplied by r), (3) the low point as the sign of abbreviation (Example B.H.P. = brake horse power) may avoid the use of subscript letters and write the qualifying letters on the line of printing (Example, m = Es/Ec, where m = modular ratio, Es = elastic modulus of steel, Ec = elastic modulus of concrete.

The high point, or turned point, is the new British decimal point. (See treatise by Legros and Grant on "Typographical Printing Surfaces"). The middle point is the usual sign of multiplication in American engineering text-books, and it is also used in Germany. The low point, or period, is the international sign of an abbreviated word.

If the above suggestions are adopted subscript letters can be eliminated entirely. These suggestions are intended to supplement the recommendations given in detail in the recently published report of the Concrete Institute on "Standard Notation for Engineering Formulæ."

Weekly Housing Report

New housing schemes submitted to the Ministry during the week ended July 10 numbered 82, bringing the total number of schemes submitted to 10,673, comprising about 72,000 acres. The schemes approved now number 7,120, and comprise about 51,600 acres.

Ninety-eight lay-out schemes were submitted and 94 approved during the week, bringing the total number of lay-outs submitted to 5,257 and the number approved to 4,550.

House plans representing 1,925 houses were submitted, and plans for 1,798 houses approved. The total number of houses represented in all the plans now submitted is 232,916, and in the plans approved 218,674.

During the week tenders were submitted for 5,259 houses. Tenders for 6,000 were approved, bringing the total number of houses in tenders submitted to 143,252, and in tenders approved to 126,405. Contracts have been signed for some 69,888 houses.

The past week has been notable for an intensive effort in London and the provinces to secure subscriptions to Housing Bonds. At Bristol and Cambridge "Bonds Weeks" have been held and have resulted in large additions to the sum already obtained. At Cambridge one-third of the total required (£300,000) has been subscribed.

Trade and Craft

Manu-Marble.

The "Manu"-Marble Company, Ltd., of Tuffley Crescent, Gloucester, have sent us samples, in Rouge, St. Ann's, and Dove colours, of Manu-Marble, the new substitute for marble, which offers a beautiful range of colours especially suitable for wall linings, floors, and the interior decoration of hotels, restaurants, banks, theatres, public buildings, and offices. Manu-Marble is claimed to have all the natural and artistic properties of real marble. It is highly polished, by friction only, on the face, and the markings and colours go right through the material and are permanent. Should the polished surface get scratched the material may be easily repolished like marble. The standard sizes of Manu-Marble are as follows, but the firm are willing to execute other sizes for quantities: Slabs or tiles, 16 in. by 12 in., and 18 in. by 12 in.; mouldings, 16 in. long by 2 in., and 4 in. wide; and moulded skirtings, 16 in. long and up to 12 in. wide. The company can offer immediate deliveries from stock of flooring, wall linings, and plain plinths, and cappings in the three colours named above. Manu-Marble is guaranteed to stand climatic changes, frost, or heat, and is claimed to give all the effects of the most expensive marbles, granites, and mosaics at very little above the price of glazed tiles.

Sanitary and Ventilating Fittings.

A profusely illustrated and extremely well-produced catalogue, dealing with rain-water, drain, soil, and general goods, has been sent us by Messrs. James Allan, Senr., and Son, Ltd., of Elmbank Foundry, Glasgow, a firm with eighty-four years' experience of the ironfounding trade in this and other countries. The large variety of patterns shown, which are tasteful and simple in design, are those for which constant demands are made by architects. Each pattern is clearly illustrated, and full particulars are given as to size, etc. To prevent mistakes directions, with diagrams, are also given with regard to the details to be given in ordering the fittings. The useful information section, devoted to tables, formulæ, and general data, so frequently consulted by architects and builders, should be of genuine and daily assistance. The catalogue has been compiled in a most concise and useful manner and is one of the best that has come to our notice. A very large range of other patterns, not shown in the catalogue, are also obtainable, particulars of which will be forwarded on application to the firm.

RAIN-WATER HEAD, MANUFACTURED BY JAMES ALLAN, SENR., AND SON, LTD.

Installation News.

A valuable illustrated contribution on "Simplex Wiring" in a large engineering works appears in the current issue of "Installation News." The article is full of exceedingly practical information and is a useful addition to wiring knowledge. Other contributions include "English as She is Written Abroad"; illustration and summary of the new Plexsim iron; how Simplex conduits are made; and the new cable standards. "Installation News" is published by Simplex Conduits, Ltd., of Birmingham, and edited by Mr. T. Birkett. An exterior view of Wallasey Town Hall (Messrs. Briggs, Wolstenholme and Thornely, FF.R.I.B.A., architects), the electrical equipment of which has been carried out in conduits and fittings made by the company, is reproduced on the cover.

Church Building

At the monthly meeting of the Incorporated Church Building Society, held at 7, Dean's Yard, Westminster, on July 15, the Hon. Sir E. P. Thesiger, K.C.B., in the chair, grants were made as follows towards building new churches at Luton, All Saints' (Beds), £200, and Mill Hill, S. Michael and All Angels, Middlesex, £150; and towards enlarging or repairing the churches at Ford End, S. John, Chelmsford, £40; Llanfihangel-yng-Nghwynfa, North Wales, £30; Orlestone, S. Mary, Kent, £30; Ryhope, S. Paul, Sunderland, £125; Shevington, S. Anne, near Wigan, £25; and S. Pancras Old Church, Middlesex, £125. A grant of £50 was also made towards building S. Andrew's Mission Church, Westcliff-on-Sea. The following grants were paid for works completed: Hornton, S. John the Baptist, near Banbury, £75; Plymouth, S. Alban, Surrey, £50; and Wardley, S. Aidan, near Gateshead, £25. The sum of £499 was also paid towards small repairs to sixteen other churches. The election by the committee of honorary consulting architects of Prof. W. R. Lethaby to fill the vacancy on that body was ratified. The Society is entirely dependent upon voluntary support, and the committee earnestly appeals for substantial assistance so that it may more adequately assist all the schemes of church-building and repair which come before it.

Coming Events

JULY 31 TO AUGUST 14.

Summer School of Civics.—At High Wycombe.

FRIDAY, OCTOBER 1.

Norwich Housing and Home Life Economy Exhibition. — Agricultural Hall, Norwich. Opening ceremony. Exhibition closes October 16.

SATURDAY, OCTOBER 2.

Garden Cities and Town Planning Association. Two day's Informal Conference at Letchworth.

The Week's News

(Continued from page 62)

Ypres' Garden City.

Ypres is to have a garden city of nearly 100 houses.

Shoreditch Church.

Shoreditch Church is undergoing thorough repair.

Cost of Cottages at Guildford.

Cottages in Guildford erected in 1914 for £220 are costing nearly £1,000 to-day.

Empire Timber Exhibition.

The closing date of the Empire Timber Exhibition, Holland Park Skating Rink, has been extended to July 24.

Deudraeth Housing.

The housing scheme of the Deudraeth (North Wales) U.D.C. has been approved by the Ministry of Health.

New Cinema at Chelmsford.

Chelmsford Town Council has decided not to stop the erection of a cinema as a luxury building.

Newburn Housing.

The scheme of the U.D.C. provides for the erection of 500 houses at Lemington and 500 at Thrackley.

Derbyshire Housing Experiments.

The Derbyshire County Council have voted £1,200 for experiments in alternative methods of house construction.

New Grammar School for Manchester.

A proposal is afoot to erect a new grammar school on a new site. The Manchester Grammar School was founded over 400 years ago.

Houses at Hyde.

Hyde Corporation are recommended to accept the tender of the Builders' Federation for the erection of thirty-four houses at £1,075 each.

A House-Building Dean.

The Dean of Worcester has erected a house for £500. He intends to extend his activities to the building of cheaper vicarages within the diocese.

Monmouth War Memorial.

It has been decided to place a statue in Monnow Street, Monmouth, to the memory of Monmouth men who fell in the war. The cost will be between £600 and £700.

Steel-framed Houses for Doncaster.

Doncaster Corporation have received the sanction of the Ministry of Health to erect one hundred houses on the Dorman Long steel-frame system, and forty more houses on the Warmsworth-road site.

New Seamen's Home at Sunderland.

As a memorial to the seamen who lost their lives in the war the committee of the Seamen's Mission in Sunderland propose to erect new and improved headquarters at a cost of about £20,000.

St. Thomas Housing.

At a meeting of St. Thomas R.D.C. it was decided to make application for a further loan of £20,000 in connection with the Council's housing scheme. The Ministry of Health wrote approving of a rent of 7s. a week, exclusive of rates, for the Council's newly-erected houses at Newton Poppleford.

L.C.C. Housing Delayed.

Delay in housing because of the labour shortage is reported by the L.C.C. It is stated that there are only seven bricklayers working on a contract for over 400 houses.

Manchester's Unhealthy Areas.

Manchester City Council have scheduled areas in Hulme, Deansgate, and West Gorton as unhealthy, and the demolition of over 1,500 insanitary dwellings will come about.

Manchester Building Guild.

A mass meeting of building operatives of Manchester and district, held in Manchester, has pledged its support to the Building Guild Committee, and invited operatives in other centres to form similar Committees.

War Memorial at Newcastle.

Canon Carr has given an Ober-Ommergau crucifix for the memorial in All Saints' Church, Newcastle. This is the first part of the war memorial scheme, the other and larger part being the building of a memorial church in Korea.

New Art Gallery for Accrington.

An Accrington lady has bequeathed to the town her residence, Hollins Hill, and its extensive grounds, together with certain pictures, for an art gallery, museum and public park. There is in addition a legacy for the upkeep of the place.

London Building Guild.

Arrangements for the London Building Trades Guild are going ahead. Twelve thousand operatives have agreed to take up shares, and it is hoped that the number will have reached 20,000 by the time the Building Trades Parliament meets in August.

Houses for Aberdeen.

The Board of Health have approved the lay-out plans of 202 houses for the Torry housing scheme. The Housing Committee, besides accepting tenders for twelve houses, have taken steps for the mason work of another forty-six, while plans of twenty-six houses have been approved of.

Worcester's New Houses.

The Housing Committee have resolved to accept the tender of Messrs. Rowbotham and Co., contractors, of Birmingham, for the erection of the 347 houses on the Northwick, Goodrest, and Bromyard road sites. The expenditure on the buildings alone is approximately £380,000.

Unemployment in the Building Trade.

Dr. Macnamara in Parliamentary papers gives the number of persons classified under the building trades claiming out-of-work donation or unemployment insurance benefit between the beginning of this year and June 4. In January the total was 36,995, in May 15,836, and on June 4 16,454. Rather more than one-half in each case were unskilled.

Tasmanian Cement.

Mr. W. R. Hume, managing director of Hume Brothers Cement Pipe Company, a concern with ramifications in almost every part of the British Empire, which has just secured five acres of land for the extension of the cement pipe works near Hobart, states that he hopes, as the result of his forthcoming visit to England, to put down a plant in Tasmania for the manufacture of cement, which would be sufficient to supply local needs, and also to start an export trade.

Housing Delay at Brentwood.

Brentwood (Essex) Council had settled a contract for the erection of a number of houses, but have now been informed that the Building Operatives' Federation and the Brentwood Labour Council had decided not to allow their members to take any work in connection with this schem on the ground that the houses were u suitable for the working-classes, and th proposed rent of 15s. was prohibitive.

Pinner and Housing Delays.

Pinner R.D.C. have passed a resolutio strongly protesting against the action the Ministry of Health and the Londo Housing Board in requiring local author ties to fill up and supply unnecessary form and statistical and other statement "thereby causing vexatious delays, whic not only tend to retard the erection houses, but have the unfortunate effect seriously increasing the already high co of the construction of such houses."

Mediæval Accounts.

A lecture on "Some Mediæval Buildin Accounts and What We Learn fro Them," was delivered in the Nottingha University College by Mr. Hamilto Thompson, F.S.A. (Armstrong Colleg Newcastle), under the joint auspices the Historical Association and Thornto Society. Mr. Thompson quoted extrac from building accounts from York, Du ham and Ely, which showed that a ston cutter's wage was the insignificant sum 7d. per week. It was also seen that 6 leaves of silver cost 6s., and 450 leaves gold 4s. Rules for masons were drawn u in 1350 by the Dean and Chapter at Yor which provided that they must commen work at the ringing of the Mary bell abo daybreak.

Institution of Civil Engineers.

No. 3 of the new series of "abstracts papers in scientific transactions an periodicals," edited by Mr. J. H. T. Tud bery, D.Sc., and issued by the Institutio of Civil Engineers, contains a larg amount of useful information with regar to measurements and measuring an recording instruments, engineering mat rials, structures, the transformation, tran mission and distribution of energy, mech nical processes, appliances and apparatu and specialised engineering practic Formerly printed in the "minutes of pr ceedings," these abstracts are now issue as a separate publication, and are intende to indicate the nature and scope of th more important views published outsid the United Kingdom on engineering an applied science.

Lord Astor on Town-planning.

At a meeting of the Town-planning In stitute, held in the Surveyors' Institut Viscount Astor dealt with the history an progress of town-planning. The lesson t be learned was that, whilst designing in th grand manner and for utility had thei place, the basis of all must be good home and conditions that made a full life po sible. While there should be no delay i our housing programme we could, at th same time, so plan that future buildin would fit into the general framework Some towns had grown beyond the size a which the arteries could function healthily One remedy would seem to be the gradua rearrangement and improvement of exist ing towns and concurrently the establish ment of new garden cities or satellite town to absorb the excess and the new popula tion. There must be some one broa scheme. In all cases the sine quâ no should be the preservation of a surround ing belt of food-producing land.

No. 27.

BUILDING MATERIALS

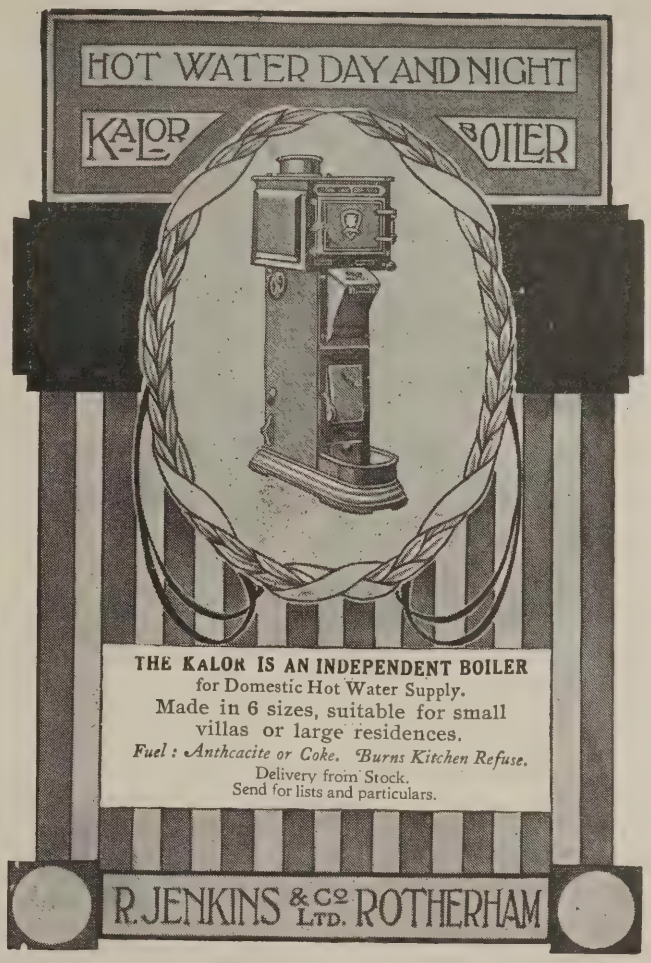
We shall be glad if you will send us your enquiries, and would therefore ask you to put our name on your buyers' list for Materials used in building construction.

Cement, Limes, Bricks, Partition Blocks, Tiles, Slates, Chimney Pots, Sanitary Ware of all kinds, Pipes, Gulleys, Interceptors, Fire Bricks, Fire Clay, Fire Cements and Refractories of every description. Acid resisting Goods, and Acid Cements, also Fiberlic the root Fibre Board, Asbestos Sheets and Tiles. "Sank" brand Paints and Distempers.

We deliver by our own lorries 50 miles round London, and by vessel or truck to any port or station in the United Kingdom.

J. H. SANKEY & SON, LTD

Estd. 1857. HEAD OFFICE, Essex Wharf, Canning Town, London, E.16.



CRANE

PIPE FITTINGS

in

Malleable Iron
Wrought Iron
Soft Cast Iron
GUNMETAL
} Black and Galvanised

"EVERYTHING FOR ANY PIPE LINE"

For STEAM, WATER, AND GAS

VALVES AND COCKS

GUNMETAL and IRON (Screwed and Flanged).

PLUMBERS' BRASSWORK.

PIPE HANGERS, PIPE FITTERS' TOOLS.

Distributors of HEATING AND SANITARY MATERIALS.

CRANE-BENNETT LTD

45-51, Leman Street, London, E.1.

Telephone: 8062-5 Avenue (4 lines).

Telegrams: "Spruceness 'Phone, London."

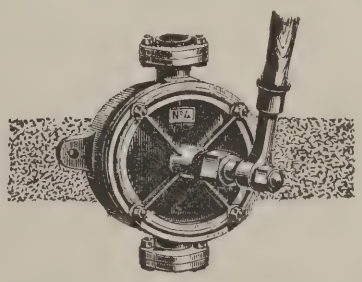
PUMPS

Willcox's Semi-Rotary "Wing"

For House and Estate water supply, and general lifting and forcing. Double or quadruple action. Mounted or unmounted.

Other Specialities: Diaphragm Pumps for Trenches, Excavating, etc.; "Jones-Willcox" Patent Wire-bound (non-rubber) Hose; "Penberthy" Automatic Cellar Drainers.

Let us quote for your requirements.



W. H. Willcox & Co. Ltd.

32-8, Southwark St., London, S.E. 1.

CONTENTS.

Edited by PROFESSOR A. E. RICHARDSON, F.R.I.B.A.

Notes and Comments: Absorption or Federation?; The Pylon and the Critic; The London University Site Difficulty; 87. The Poetry of the Skyscrapers; Moxhay's "Hall of Commerce"; The New County Hall; The Abbey and the R.I.B.A.; Ancient Abbeys for the Nation; The Art of E. A. Rickards 88

The Week's News 89, 112

Mr. Cass Gilbert and the Woolworth Building 90

Architectural Causerie: Thomas Bewick. By Aero 92

The R.I.B.A. Entertains Mr. Cass Gilbert 95

Correspondence 95

Societies and Institutions 96

Publications Received 99

Competition News 99

Royal Sanitary Institute Birmingham Congress 100

Hot Water and Domestic Supply Services 106

The Ideal Public-house Competition 106

Enquiries Answered 109

Presentation to Mr. A. B. Gibbons... 109

Sir Thomas Jackson on Symbolism 109

A.A. Annual Prize Distribution ... 110

Weekly Housing Report 110

Germany and Skyscrapers 111

Builders' Benevolent Institution ... 112

Current Prices of Materials ... xvii

Complete List of Contracts Open xx, xxii

ILLUSTRATIONS:

Sir Charles Barry, R.A. ... 85

English Renaissance Architecture. 3.—Park House, Ampthill, Bedfordshire. The Seat of Emily Lady Ampthill ... 86

Woolworth Building. Ground and Upper Floor Plans ... 90, 91

Modern American Architecture. 6. — Agricultural Building, Omaha Exposition, Nebraska, U.S.A. Cass Gilbert, Architect 93

The National War Memorial: A Suggestion ... ...

Current Architecture. 33.—New Buildings for the Sierra Leone Old Company, Sierra Leone, West Africa. Lionel U. Grace, F.R.I.B.A., Architect 97,

Bay of Arcading, York Minster, Reserved for K.O.Y.L.I. Memorial ... ...

Fountains. 3.—Fountain in Rue de Grenelle, Paris. E. Bouchardon, Sculptor ... 102, 1

Current Architecture. 34.—Ideal Public-house Competition: First Premiated Design. Will Kidd, Architect 1

Housing Scheme for the Selly Oak Road Site, Birmingham. Bird's-eye View. Ingall, Bridgewater, and Porter, Architects 1

DAWNAY DEFINITIONS—6.

PREPAREDNESS.

PREPAREDNESS is being ready for any emergency. It is a sound principle in business. Our purpose here is to tell you we are prepared for your enquiries for constructional material, service and designs. Certainty of satisfaction and promptness of delivery stand ready here for your command without fear of disillusionment.

STOCKS OF British Standard Sections in Joists, Channels, Angles, Tees, Flats, etc.

ARCHIBALD D. DAWNAY & SONS, Limited.

Telephones: Battersea, 1094 (3 lines).

Steelworks Road, Battersea, S.W.11

Telegrams: "Dawnay, Battsquare, London."

Telephone: Cardiff, 2557.

And at East Moors, Cardiff.

Telegrams: "Dawnay, Cardiff."

dnesday, July 28, 1920

Volume LII. No. 1334

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

SIR CHARLES BARRY, R.A.

Sir Charles Barry was born at Westminster in 1795, and began his career as an apprentice to a firm of Lambeth architects. In 1840 he was elected an A.R.A., in the following year an R.A., and received a knighthood in 1852. His greatest masterpiece was the new Houses of Parliament, commenced in 1840 and completed in 1860. Sir Charles also spent several years in reconstructing the Treasury Buildings in Whitehall, and designed many churches and private mansions. He died in 1860, and was buried in Westminster Abbey.

27-29 Tothill Street, Westminster, S.W.1.

English Renaissance Architecture. 3.—Park House, Ampthill, Bedfordshire
The Seat of Emily, Lady Ampthill

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.
ednesday, July 28, 1920 Volume LII. No. 1334

Notes and Comments

Absorption or Federation ?

A COMMITTEE designed to bring about unification of the architectural profession has been formed at last, has held its first meeting, and has appointed a sub-committee, which was ere and then instructed to draft and submit schemes on osorption and federation. With all our heart, we wish success in what it has set out to do. Though the lvantages of unification are great and obvious, they ould hardly be reaped by this generation. Some sacri-e and unselfishness are needed in the interests of osterity, although some may be minded to ask, with the merican humorist, "What has posterity done for us?" t the first meeting the secretary of the Society of Archi-cts spoke strongly against absorption, and thought that federation of the various bodies would be a better olution, i.e., the setting up of a "common council" by e R.I.B.A., the S.A., the A.A., and all other associated stitutions. But that would mean an additional staff, dditional office accommodation, and a great deal of over-pping in the work. Mr. McArthur Butler said that is "common council" would deal with such matters as gistration, arbitration, and legal disputes. But what ouldn't such a common council deal with? And where ould the duties of the individual institution end, and the uties of the common council begin? As against absorp-on, it is natural that the younger society—the Society f Architects—should be jealous of its own individuality, nd not be content lightly to sink itself in the greater and onger-established R.I.B.A. However, of this we are ire: all members of the committee, no matter to which ociety they belong, have determined to set aside all ersonal interests, and will combine to serve the best nterests of the architectural profession.

The Pylon and the Critic

So vehement has been the Press outcry against the uggested "Pylon" War Memorial that Sir Frank Baines ust by now be regretting that he ever allowed the esigns to be placed on view in the House of Commons. t appears that the drawings were produced by Sir Frank n leisure moments during the war, and that there was ever any official suggestion that the pylon should assume ree dimensions at Hyde Park Corner. That the esign ever saw the light is due to the enthusiastic impor-unity of a Member of Parliament. Thus has there been much ado about nothing." The tumult and the shout-ng dies, and the fiery art critics and others reluctantly ut away their fountain-pens and retire to their tents. Ve shall hear nothing more of them until some other ickless war memorial with a nickname attached to it (it ust have a nickname) happens to come into public rominence. The "Pylon" project, though severely uashed, has had its uses—it has filled the columns of the ress during the dull season and has afforded a fine pportunity for the ventilation of views on various asso-iated topics. Thus, Captain Adrian Jones, in an interview with a newspaper representative, has dwelt at some length upon the beauties of Burton's arch at the top of Constitution Hill, though he modestly refrains from comment upon the Quadriga—merely making it the means of getting in a good hard knock against the whole tribe of architects. "Without belittling in the least Sir Frank Baines's brilliant abilities," he says, "I consider that such matters are primarily for artists. A good instance of the conflict of ideals between architects and artists occurred when Decimus Burton stopped at the Arch. The Quadriga was added later. 'Why so big?' chorused the architects when they saw the Quadriga. 'Because architects as a class have no sense of proportion,' was my unspoken rejoinder." This is very hard on the architects. They are not artists, and they have no sense of proportion. They are nothing. Yet Decimus Burton was an architect. Apparently it is only sculptors who are artists and the lucky possessors of a sense of proportion. Well, Captain Jones should know, being a sculptor. Yet, with all deference to Captain Jones, war and other memorials will still be designed by architects, and we trust sincerely that sculptors will continue to enrich them with examples of their delightful art.

The London University Site Difficulty

No decision has yet been reached with regard to a site for London University. At a meeting of the Senate on Wednesday last the Government's Bloomsbury offer was fully considered, and the following resolution was carried: "That while recognising and welcoming the desire of the Government to assist the University, the Senate, in view of the important issues involved and the uncertainty as to the nature of the offer in many respects, desire time for further consideration and consultation with the Government; and that the Government be requested to keep their offer open to allow time for such further consideration." There the matter rests at present. In the meantime various alternative proposals are being advocated in the Press. The most startling is that of Professor Petrie, who suggests that the University should be planted on Lord Mansfield's Kenwood estate at Hampstead. But why should London University be thrust out into the suburbs when there are innumerable sites upon which it might be erected within the heart of the town? Whole areas of small property, mostly of a slum character, have been and are being marked down for clearance and reconstruction, and one or other of these might well be considered. The St. Giles district of Holborn, the latest to be condemned, would be a far more convenient locality for a university than Hampstead. Then there is the south side of the river, between Westminster and Blackfriars, which before long must be entirely reconstructed. Geographically this great area of forlorn and derelict-looking buildings is at the very heart of London, and within a very few years it must become quite as fully and finely developed as the northern side. Then there is the great slum district of Westminster, which is scheduled for demolition. The

number of sites within London that are open to the University are so numerous that the question of migrating to the suburbs need never arise. London must keep all great representative buildings for herself.

The Poetry of the Skyscraper

Those who have not seen the "skyscrapers" can hardly form a conception of their beauty and grace. For all their amazing height they do not go up like sheer cliffs of concrete, but in all the beauty of simplicity, straight and untroubled by ornament, they rise. From the midst of a group rises a vast tower higher than all the rest. From the sea approach to New York, it might be thought the cathedral of the city of a dream. But it is not a cathedral. It is the Woolworth Building, its topmost cerulean storey seeming to melt into the sky. As Lady Banister Fletcher remarked to Mr. Cass Gilbert, its architect, at the R.I.B.A. dinner given in his honour last week, it seems a marvel that it could stand. But it is founded upon unyielding rock, and every thrust and strain calculated with the scientific genius of the new world. Mr. Simpson at the same dinner aptly quoted Walt Whitman's lines:—

"Brain of the new World, what a task is thine,
To formulate the Modern—out of the peerless grandeur of the modern,
Out of thyself, comprising science, to recast poems, churches, art,
(Recast, may-be discard them, end them—may-be their work is done, who knows?)
By vision, hand, conception, on the background of the mighty past, the dead,
To limn with absolute faith the mighty living present."

The words might almost have been written for the occasion.

Moxhay's "Hall of Commerce"

We note that Parr's Bank in Threadneedle Street is to be remodelled. The building has an interesting history. Originally conceived as a Hall of Commerce, it was put up during the years of delay that occurred in the building of Tite's Royal Exchange. Moxhay, the architect, was a man of many attainments, but his real lines of business were shoes and sugar-baking. As a relief from these exacting pursuits he turned to architectural design, and made a considerable success of it. A distinguished correspondent suggests that the compliment should be returned by including the study of shoes and sugar-baking in the architectural curriculum. It would be a dangerous experiment. Architecture would inevitably languish, the higher monetary rewards of shoes and sugar-baking proving a fatal attraction.

The New County Hall

A correspondent of the "Glasgow Herald" says that surely no edifice since the Pyramids has been fabricated under such difficulties as have hindered the building of the London County Hall, which is slowly rearing its white and scaffold-crowned head towards a visionary roof. Every stone which was laid upon another occasioned lamentations and angry divisions in London's Council Chambers. The destinies of the rising pile have for years trembled at every new increase in costs and every new eruption in the building world. Ever since its foundations were dug economists have held up their hands and cried aloud for its abandonment. On one occasion, when new estimates of its cost were available, it narrowly escaped being left half finished, a lasting memorial to human hesitancy. Now revised estimates are published, which are setting the councillors by the ears. The original estimate was somewhere in the region of £1,700,000. That has been increased to £2,700,000 "without furniture," and including £300,000 for a portion not commenced. Yet sentiment will p bably intervene on its behalf, even at this eleventh ho Children of misfortune for whom we have striv become dear to us in time. So is it with the Counc Their child of misfortune is this colossal palace. It draining their purses; cynics are busy with observatio upon the years it has already been in sporadic buildin critics declare they see neither beauty nor appropriaten in the classic stone effigies which recline over its num rous doorways and gaze down into its courts. Yet th will undoubtedly see it to the bitter end, fortified by t hope that their activities within its walls may have happier history than the walls themselves.

The Abbey and the R.I.B.A.

The appeal of the Dean and Chapter for funds wi which to repair the sadly disintegrated fabric of t Abbey has met with a large measure of success. Amo the latest contributions we notice one of 100 guineas fr the Royal Institute of British Architects. This gift, "The Times" aptly expresses it, "may be taken as pro that that eminent body is satisfied that the repair and p servation of the Abbey are in good hands." Also shows that architects are fully alive to their own peculi privilege in connection with such a fund as that for t restoration of the aged Abbey. A very large sum money is still required, and we hope that the splend lead given by the Institute may be followed up by arch tects in all parts of the country. All contributions shou be addressed to the Right Rev. the Dean of Westminst D.D., The Deanery, Westminster Abbey, Lond S.W.1.

Ancient Abbeys for the Nation

Byland, the Cistercian House at the foot of t Hambleton Hills, Whitby Abbey, Furness Abbey, a now Roche Abbey, near Rotherham, have all passed the nation—in whose care, indeed, all such histori buildings should rest. Perhaps because of where it situated, Roche Abbey is less known than many of t more famous piles. It is a granddaughter house Fountains, and was founded by the Cistercians in 114 and, built of stone quarried near by, was completed 1171. All that now remains are the eastern walls of t transepts and the piers of two arches on each side of t nave. The surrounding country, once wildly beautif is now given over to coal and iron, great colliery chimne encircling Roche and casting their heavy smoke over tumbled stones. Melrose and Dryburgh Abbeys, it w be remembered, were given to the nation more than t years ago.

The Art of E. A. Rickards

Architects, and the whole art world, will warm welcome the announcement that the sketches and cari tures in which Mr. E. A. Rickards, F.R.I.B.A., has be so prolific, are now being collected for early publicati They cover a wide range of subjects, architectural intere however, naturally predominating. Many of them we made abroad, and while some are elaborately finish drawings, others are dashing and spontaneous sketche but all exhibit a degree of mastery that amounts genius. It is hardly an exaggeration to say that equa spirited draughtsmanship has not been seen within t present generation. Mr. Arnold Bennett, whose cl friendship Mr. Rickards has long enjoyed, is contributi a critical appreciation of the drawings, and another art friend, Mr. Amor Fenn, has superintended their sel tion; while Mr. H. V. Lanchester, with whom M Rickards has been long associated in a notable archit tural partnership, will review the artist's work from t architectural point of view. The volume, which is bei sumptuously reproduced, is expected to be ready ea in the autumn, price three guineas. Messrs. Techni Journals, Ltd., 27-29, Tothill Street, are the publisher

The Week's News

Lewes Castle for the Nation

Steps have been taken to secure to the public in per-tuity the feudal castle of Lewes. It has been acquired om the owners by the Sussex Archæological Society.

The Lincoln Statue

The Abraham Lincoln statue in the Canning enclosure, rliament-square, Westminster, will be unveiled to-day Vednesday). The Duke of Connaught will perform the remony.

The Late Mr. J. F. Bentley's Widow

Mrs. Bentley, the widow of the late Mr. J. F. Bentley, architect for Westminster Cathedral, has been anted a Civil List Pension of £70, "in recognition of r late husband's distinction as an architect."

A Druid Circle Sold

The Druidical Circle, known as Harborough Rocks, ar Matlock, has been sold to a company with £75,000 pital, and will be worked for its value as dolomite ne. Harborough was one of the few ancient sites for worship in conjunction with Nine Ladies, Bilberry wle, and other Peakland circles. The rocks include Druid's chair, cut in stone, where the ritual of the ests was carried on.

The King William Statue

At a meeting of the City Corporation considerable position was offered to the suggestion of the Improve-nts and Finance Committee to remove the King illiam statue at London Bridge and to put in its place efuge. The statue was erected in 1821 at the expense the Corporation. It was stated that its area of 120 perficial feet was very obstructive to present conditions, d that the monument had no architectural or historical rit.

A Society of Graphic Art

The new Society of Graphic Art, recently established represent all forms of Black and White Art, has just d its first general meeting. Mr. Frank Brangwyn, A., was elected president, and Mr. Frank L. Emanuel e-president. Among the distinguished honorary mbers are Sir Aston Webb, P.R.A., and Sir Reginald mfield, R.A., on the council-elect are Mr. F. L. iggs, R.E., and Mr. Hanslip Fletcher, and on the roll some 250 original members Mr. H. C. Brewer, R.I., . J. Alphage Brewer, Mr. Ernest T. Cole (the sculptor the County Hall), Mr. H. Falkner, Mr. A. Hugh her, Mr. E. L. Hampshire, Mr. F. Hamilton Jackson, B.A., Mr. C. M. Shiner, A.R.I.B.A., Mr. T. A. Tait, R.I.B.A., Mr. G. Vey, A.R.I.B.A., Mr. P. Westwood, R.I.B.A., and Mr. J. F. Wilson, A.R.I.B.A. The iety's first exhibition is to be held next January, Mr. dney Long is hon. secretary, and Mr. C. T. Chisman, afton Galleries, is secretary.

Association of Norwich Architects

With regard to the Association of Norwich Architects ich has been formed, and which includes practically all architects of the city, Mr. E. W. B. Scott, R.I.B.A., the hon. secretary, writes: "The formation the Association is a result of a good deal of effort ending over some years, and, while there is no present ention of seeking affiliation with the Institute or of empting any elaborate programme, it is felt that such Association could be of very great value in Norwich promoting and supporting schemes for the improve-nt of the city. There are also many matters in con-tion with the building trade, and also questions of hitectural education and of the interests of the profes-n which are considered to merit the attention and ty of action which only an Association can give. Under these circumstances, as there was no Association nearer than London, it was felt by many that the time had arrived when one must be formed here. We should have preferred an Association embracing at least the whole of Norfolk, but in view of the scattered nature of the population it has been found impracticable to do so at present. The nucleus has, however, been formed which should survive and grow both in size and use-fulness."

Office of Works £6,000,000 for Housing

In connection with the housing scheme which has been entrusted by the Ministry of Health to the Office of Works, the latter Department is to spend a sum of £6,000,000 spread over the next eighteen months. It is not intended to set up a special department of housing at Storey's Gate, but the direction of the operations will entail an expenditure of £32,000 for the first twelve months, and a proportionate sum for the remaining six, in which the work is to be completed. Treasury sanction has been obtained to the outlay, but the additional appointments entailed by the housing activities of the Department are, it is understood, to be strictly tem-porary.

Unification of the Profession

The first meeting of the Unification Committee was held at the Royal Institute of British Architects on Tuesday afternoon last week, Mr. John W. Simpson, who was appointed chairman of the Committee, presid-ing. The first business taken was the constitution of the Committee, when Mr. E. J. Sadgrove, president of the Society of Architects, was elected vice-president, and Mr. Arthur Keen honorary secretary.

A Sub-Committee as under was also appointed: Mr. James Gibson, Sir Banister Fletcher, Mr. Herbert Welch, Mr. Horace Cubitt, and Major Barnes, M.P. (Fellows); Mr. Leonard Elkington (Associate); Mr. J. E. Yerbury (Licentiate), as representing the R.I.B.A.; Sir Charles Ruthen, Mr. Noel Sheffield, and Mr. McArthur Butler, as representing the Society of Architects; Mr. Maurice Webb as representing the Architectural Association; Professor W. E. Riley and Mr. Sydney Perks, as repre-senting the Official Architects' Association; Mr. R. G. L. Evans, as representing the Architects' and Surveyors' Assistants' Professional Union; Mr. W. B. White, as representing the Institute of Scottish Architects; Mr. H. T. Buckland (Birmingham), as representing the Allied Societies; and Mr. G. E. Marshall (Liverpool), as repre-senting the unattached architects.

The Chairman remarked that this was, in a way, an historic occasion. They were a sort of parliament of architects, and members must bear in mind that they represented every member of the profession. His own position was this: they had been good enough to make him chairman. The first duty of a chairman was impartiality, and they might be sure that he would be impartial. As regards unification there were two sug-gestions: A, the absorption of all professional societies in one body, and B, federation, by which each society would remain distinct, but have a common council consisting of members from all. Concluding, he said that unification would be merely a phrase unless it were based upon two things—goodwill and unselfishness.

Several speakers rose and stated their views in favour of one or other of the two suggestions, chief among them being Mr. MacArthur Butler, secretary of the Society of Architects, who was strongly in favour of federation.

Finally the following resolution was passed: "That it be an instruction to the Sub-Committee to draft and submit to the Grand Committee alternative proposals for unification based respectively on absorption and federation."

(*Continued on page* 112.)

Mr. Cass Gilbert and the Woolworth Building

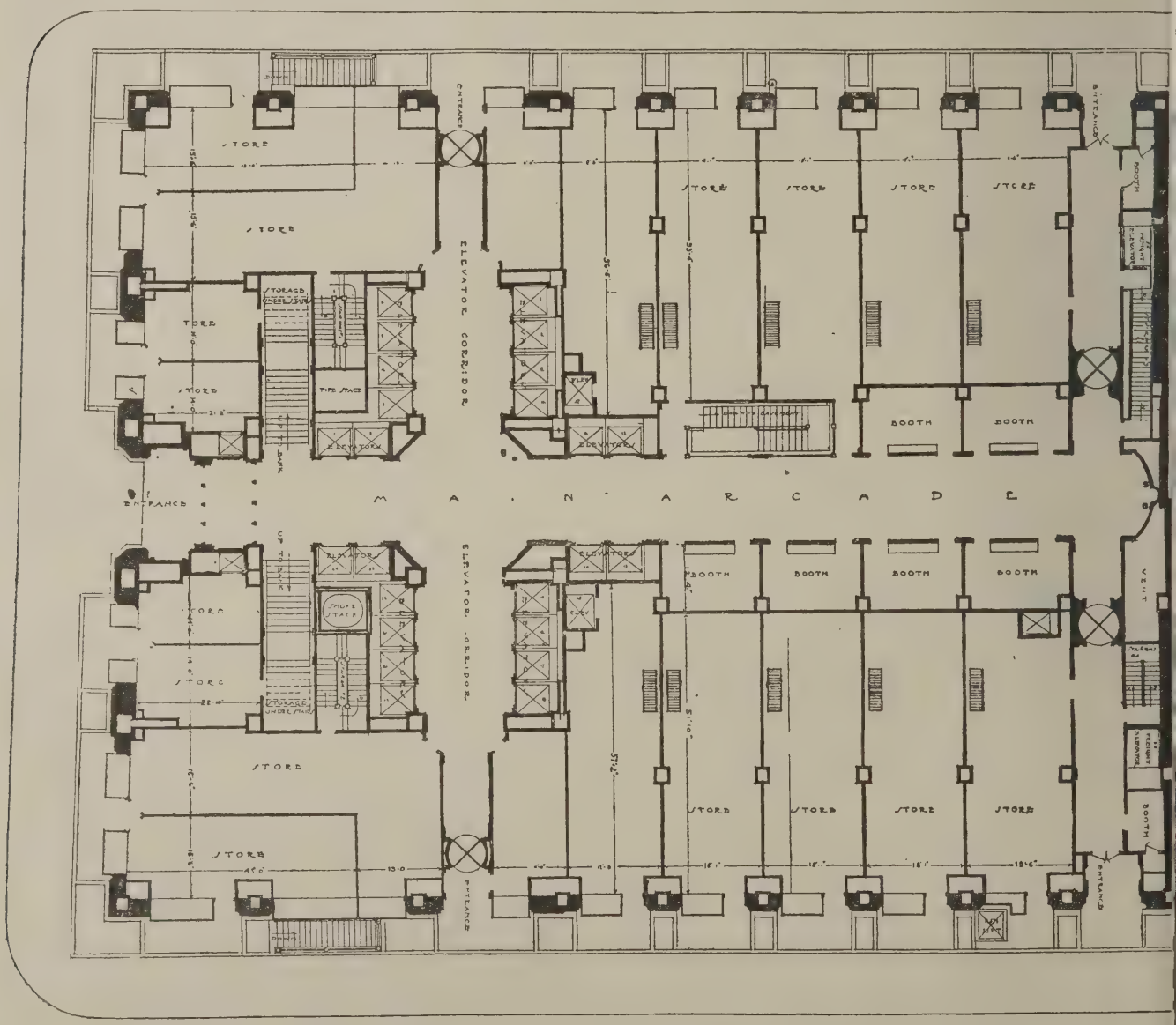
IT has been often said that architecture as now practised offers little scope for the assistant to rise to a practice of his own. All the work, it would seem, goes to men well known and long established in their profession, who employ large staffs numbering several scores of assistants, and woe and ruin to him who without influence or genius dares to throw up his job and start out for himself. In an interview which a representative of THE ARCHITECTS' JOURNAL had with Mr. Cass Gilbert last week, the famous American architect gave his views upon this. He said that where a man had ability he would come to the top, although to do this he must have great business ability as well as the power to plan and design. "He will need courage, too," Mr. Gilbert said earnestly, "and I am not sure that the assistant does not have the better time."

He thought that the assistant of to-day made a mistake in wanting to do big jobs right off. "He travels in Greece, Egypt, Italy, and France, and, with a sketch-book crammed with palaces and temples, feels it altogether too hard to have to start on smaller things. But it was the way I started," Mr. Gilbert said.

"The principal of a large practice has many difficulties," he continued. "If I had had the mental and physical ability to make the drawings for the Woolwor Building it would have taken me ten years. The dra ings had to be out in eight months, and I had to emplo a large staff. When the job is done, unless one is goi to live on the profits and sack one's staff, one must ha other jobs going on, too. One job begets another, b even with many jobs it will be found hard to make the fit in so that your ornamental or structural draughtsm shall not be idle for months together. You might p them off and re-engage them when you want them, b is it likely they would return to such a job?"

Mr. Gilbert went on to chat about the architectur Press. He thought the best journals of both Ameri and England compared very favourably, and did a ve good work. He confessed that he himself rarely g time to indulge in more than a hasty glance throug paying special attention only to anything which might marked by his secretary.

The question which had most often been put to hi during his brief visit here was whether he favoured t building of skyscrapers in London. His answer h been quite positively "No." New York suffered fro conditions other than those in London, and he thoug that the small self-contained villas were among London



GROUND FLOOR PLAN OF THE WOOLWORTH BUILDING.

ecial charms. He smilingly suggested that Sir Martin onway's proposal that London should be knocked down d built up again on end was that of a mountaineer. He cognised that London had housing and traffic problems, t did not think that the erection of skyscrapers would lve them.

Mr. Gilbert was asked whether he liked London as well New York. The reply was that he liked it very well, t maybe every man found himself suited by tempera-ent to the place where he was born. Mr. Gilbert turns to America this week after a two months' holiday London and Paris.

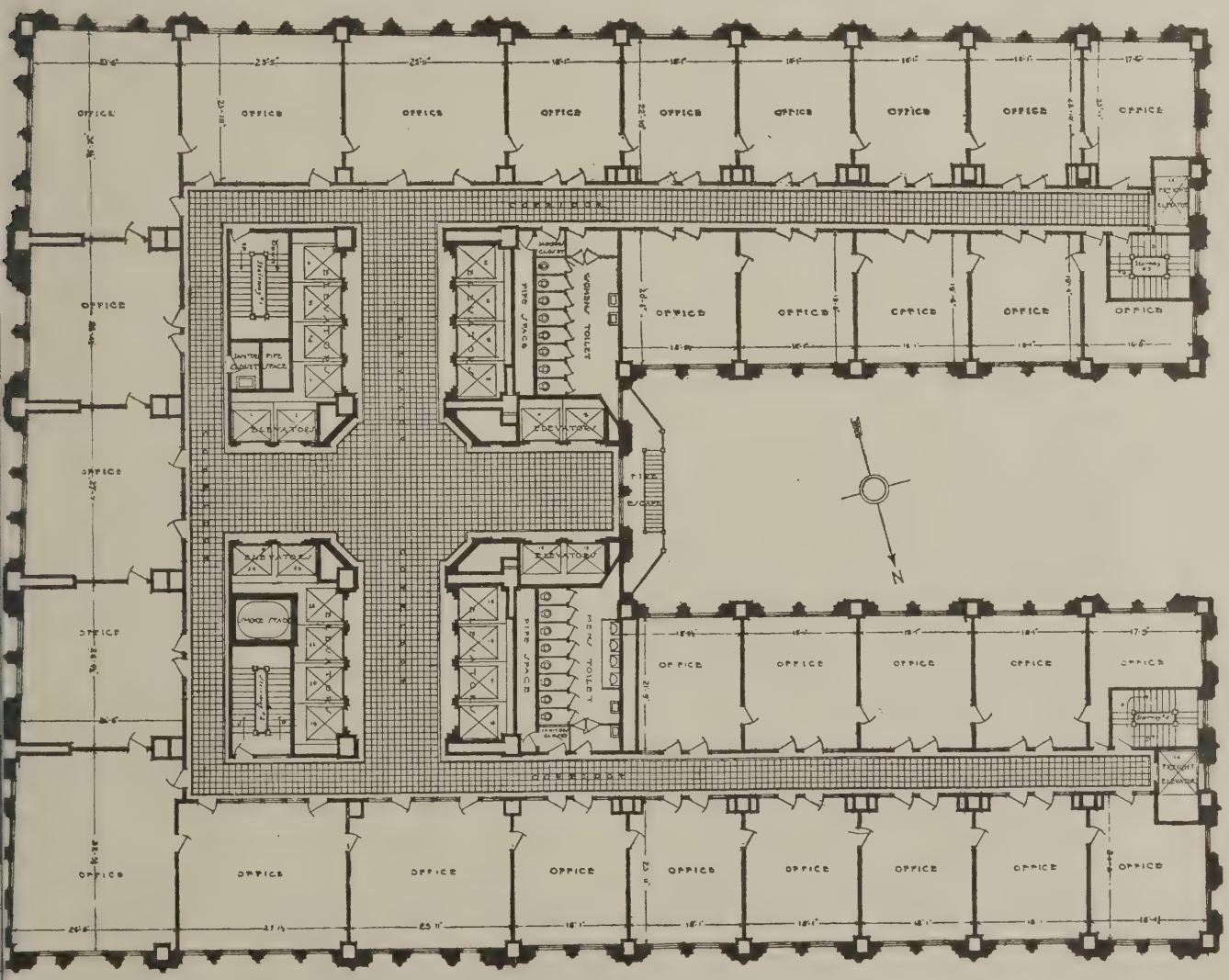
Notes on the Woolworth Building

Some interesting plans and photographs of this mous "skyscraper" were exhibited by Mr. Gilbert at e dinner, a report of which appears on another page, ven in his honour by the R.I.B.A., and, in view of the eat interest aroused, we reproduce the plans in this sue. Much of the later work of Mr. Gilbert is in the me American Beaux-Arts manner that has given so any notable buildings to the cities of the United States, t in the Woolworth Building he has reverted to the othic style.

The building, which occupies a corner plot on Broad-ay, measuring 155 ft. by 200 ft., was conceived some ars ago, but the problems involved in its design were considerable that it was only after a great amount of udy that the scheme was successfully drawn out. It ed hardly be said that the foundations for such a struc-re need to be of the greatest stability; in the present se they are carried down to solid rock, 110 ft. below the street level. Sixty-nine concrete piers were constructed by means of pneumatic caissons, these piers being loaded to a maximum of 18 tons per sq. ft. and resting on grillages which comprise principal foundation girders 8 ft. deep, 32 ft. long, and weighing 60 tons.

The building comprises a main rectangular block, from which rises a high tower crowned by a pyramidal roof, but it is only when the exact heights are set down that one gains an adequate idea of the colossal scale on which the structure is designed. The height from the pavement level to the top of the main roof, at 31st floor level, is 400 ft., the tower (86 ft. by 84 ft. at its base) being an additional 270 ft. in height from the 31st floor to the 50th, from which level rises a pyramid 105 ft. high and 54 ft. square at the base, containing the five highest floors, and an observation gallery at a height of 730 ft. Thus, the building in all comprises 55 stories, of an average height of 12 ft. 6 in., the total height being 796 ft. from pavement level and 810 ft. from the foundation grillages to the top of the tower. There are only two stories below ground, the cellar floor being 37 ft. 6 in. below street level.

The nearest to the Woolworth Building in height are the Singer Building, New York, in which the highest office floor, in the tower, is the 40th, 524 ft. above pavement level, above which is a dome rising to 668 ft.; and the Metropolitan Life Insurance Building, New York, which comprises a main block of eleven stories extending to 160 ft., with a tower of thirty-seven stories, rising another 500 ft., the total height being 683 ft. Another structure of a similar character, from designs by Messrs. McKim, Mead, and White, is the municipal building of twenty-five stories for the City of New York, which is



TYPICAL PLAN OF UPPER FLOORS.

560 ft. in height. In comparison with the foregoing, the heights of some London buildings may be given thus:—

Westminster Abbey towers	225 ft.
Imperial Institute tower	270 ft.
Westminster Cathedral tower	284 ft.
Houses of Parliament (Victoria Tower)	340 ft.
St. Paul's Cathedral (from pavement to top of cross)	365 ft.

the heights of the New York buildings being:—

Municipal Building	560 ft.
Singer Building	668 ft.
Metropolitan Life Building	683 ft.
Woolworth Building	796 ft.

One of the most difficult considerations in connection with the Woolworth Building was that of wind-pressure, for it need hardly be pointed out how great and how complex are the stresses set up in such a structure. A uniform wind-pressure of 30 lb. per sq. ft. over the entire building has been provided for, the stresses being met by special bracing systems. The floor loads are taken at 150 lb. per ft. super. on the ground and basement floors, and 75 lb. on each of the others.

The building is of steel-frame construction, the oute walls being of granite up to the fifth floor and of terra cotta above. The partition walls are 8 in. thick, built o hollow bricks, and floors of hollow terra-cotta arches with the exception of the basement and ground floors which are of reinforced concrete 5 in. thick, serving a diaphragms to distribute and resist the balanced exterio horizontal pressures. The structural steel is protecte by 1 in. of cement mortar, and by having all interio spaces filled solid with concrete or mortar, and enclose within an outer shell of terra-cotta at least 3 in. thick Everything possible, in fact, has been done to render th building fire-resisting. No wood was used anywhere the window-frames and the doors being of pressed steel the floor surfaces of mosaic, and all exposed exterio windows glazed with wire-glass; while the pyramida portion of the tower is sheathed with tiles and covere with copper. There are twenty-six lifts the shafts c which are fireproofed, and in addition there are provide four fire-escape stairways, widely separated from on another, and each enclosed in a fire-resisting shaft. I our last issue we published an exterior view of the Woo worth Building, together with a photograph of M Gilbert, and many interesting particulars with regard t his architectural training and practice.

Architectural Causerie: Thomas Bewick

FROM the year 1874 until the early 'nineties, lovers of the arts gained both inspiration and amusement from the drawings of Kate Greenaway, Randolph Caldecott, and Walter Crane, particularly from the sketches and designs reflecting country life of the previous century. To this period of critical analysis and re-encouragement of taste for humble and simple things, following upon the propaganda of Ruskin and William Morris, belongs the republication of such gems of design as the tailpieces of Thomas Bewick, about which my pen has much to say. Very few people appreciate the influence exerted on contemporary branches of art by artists capable of interesting public opinion. Architects, for instance, are prone to think that they alone sway the destinies of native expression; but a little thinking proves the contrary to be the case. In all the later expressions of building, pictures, both colour and line, and descriptive, have slowly changed the views and tastes of the public. In a word, the pictorial artist is the chief fashion monger; he not infrequently creates a vogue by recasting the atmosphere of other days. This in turn influences the fashion-plate designer, then the furniture maker, and lastly the man who shapes houses.

* * *

For close upon a hundred years we have been experimenting with house design, and not without achievement in the direction of homes for the well-to-do. Thousands of architects have plied the pencil in order to produce essays in brick and stone, ranging from Tudor idioms to the broad Georgian chant. Being of an inquiring turn of mind, I have searched the literature of the last fifty years in order to appreciate at first hand the reasons of certain traits in the forming of the domestic vernacular of to-day. Of two things I am convinced, one being the fact that Norman Shaw could not have made his work popular without the inspiring genius of Kate Greenaway, and, secondly, that this talented lady, together with Walter Crane, prepared the public for the advent of the Garden City. Mistakes of course were inevitable. No fresh movement can adjust itself to existing conditions without errors. Hence, the plethora of overgrown cottages, the apeing of country life, the absurdities of pergolas, sundials, crazy stone paths, and lily ponds near the front door, ready to trap the butcher and the baker. The war has disciplined the unbridled licence of make-believe; we are entering upon a period of restraint, an now, after a century of experiment, we architects a shaping our cottage designs upon the simple models John Plaw, John Crunden, and a host of vanished ca penter-architects. Because prices soar, gables a omitted, bay windows are relegated to their prop places, and simplicity is followed. In truth, we a entering upon the age when proportion alone will b considered. This is matter for rejoicing, for we Englis have it in us to speak as "Makers of Art."

* * *

Having delivered the preamble, I can turn to the re issue—to be precise, the value to architectural studen of Bewick's tailpieces. Thomas Bewick flourishe between the years 1753-1828, and lived beyond t allotted span. At the age of fourteen he was apprentice to Ralph Beilby, the wood engraver, and such was h industry that his master soon entrusted him with t chief details of his business. At the age of twenty-thr Bewick came to London, but evidently the charms of t little farm at Cherryburn, no less than the glamour smoky Newcastle, caused him to make his way back the North to become a partner with Beilby, and to beg engravings for Gay's Fables. Then followed tailpiec and designs for the "General History of Quadrupeds the "History of British Birds," and the "Fables Æsop."

* * *

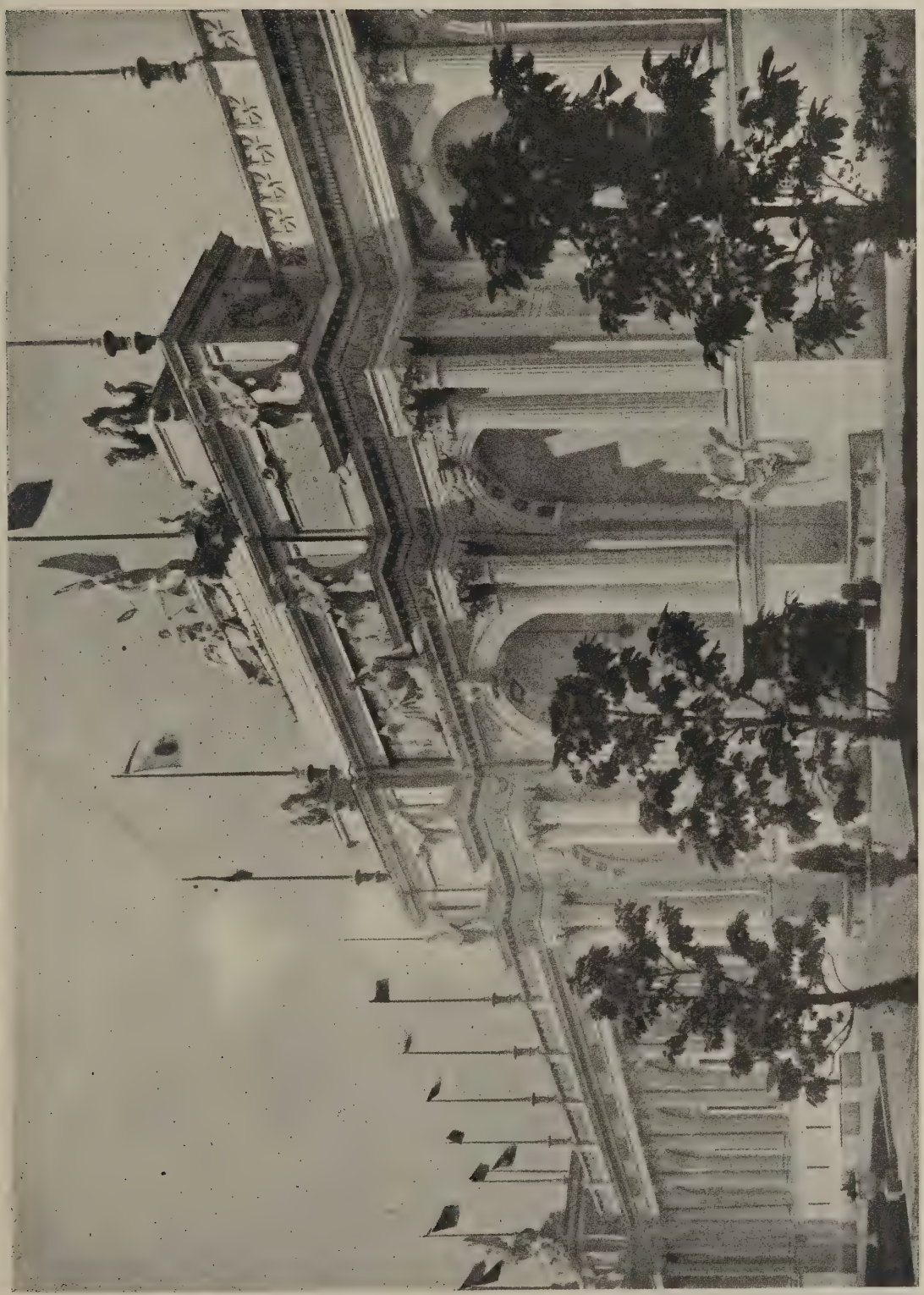
Bewick's skill as an engraver on wood was, and still i unrivalled; he had, let it be known, a flair for archite tural bits, and it is on account of the latter that h reputation stands high among architects. Bewick tailpieces, no less than his definite views of convention scenery, have an especial interest to architects, inasmu as they convey the precise atmosphere of the la eighteenth century. We use them as pointers, inspiring motifs to urge us to search among the villag of England for survivals of past domestic life. We not find complete exemplars in Bewick, but the tr Bewickian is not slow to acknowledge his debt of gra tude to the genius and industry of the North-count engraver.

AERO.

(To be continued.)

Nebraska, U.S.A.

Cass Gilbert, Architect



Mr. Gilbert has shown in his use of the Classic orders a keen sense of the fitness of things. A Roman architect in the days of Augustus, called upon to erect a building in honour of the Goddess of Agriculture, might have raised some such splendid pile as that shown above.

he R.I.B.A. Entertains Mr. Cass Gilbert

t the dinner of the R.I.B.A., given in iour of Mr. Cass Gilbert, at the Café yal last week (to which we briefly rred in our last issue), Mr. John Simpson, president, took the chair. ong those present were Mrs. Cass bert, Sir Aston Webb, President of Royal Academy, Sir John Burnet Lady Burnet, Sir Reginald Blomfield, ., Sir Banister Fletcher and Lady tcher, Sir Lawrence Weaver, K.B.E., Lady Weaver, Mr. Paul Waterhouse, Tait McKenzie, Professor Gerald ira, Mr. John Slater, Mr. A. W. S. ss, Mr. and Mrs. George Hub- d, Mr. W. E. Riley and Miss ey, Mr. and Mrs. Arthur Keen, and Mrs. Digby Solomon and Mr. is Solomon, Mr. W. Henry White, D. Barclay Niven, Mr. and Mrs. E. cent Harris, Mr. G. Topham Forrest, Max Clarke, Mr. Wm. Woodward, C. S. Errington, Mr. T. Taliesin s, Mr. T. Geoffry Lucas, Mr. Andrew Prentice, Mr. W. R. Davidge, Mr. timus Warwick, Mr. and Mrs. Maurice bb, Mr. Stanley Hamp, Mr. W. Curtis en, Mr. H. Austen Hall, Mr. W. B. itie, Mr. W. T. Plume, Mr. H. W. ls, Major and Mrs. Maxwell Ayrton, W. G. Newton, Mr. and Mrs. Ian Alister.

he President, rising to propose the t of Mr. Gilbert, said that they wel- ed him not only as a great master of r profession, but as a representative heir great cousin, and his presence e that evening was an international nt from which great things might spring. r. Gilbert, responding, said that he no stranger to London. He came first boy forty years ago, and he recalled at that time he had a desire to enter English architect's office. The times dull, and there was no opportunity. well remembered, however, having a r of introduction to Sir Alfred Water- se, whom he visited several times. Mr. n Pearson, who was then building ro Cathedral, he also met, and Phené rs, who showed him how he should ly draw a Gothic arch. He remem- d, too, Mr. George Edward Street, was then building the Law Courts. many of those present all that would n a very long time ago, but in his d these things were very fresh. When- he came to England he felt, in a way, he was coming home.

r. Paul Waterhouse, proposing the of the ladies, asked, What was it architecture owed to woman? What that essential feature which, without an's aid, would undoubtedly languish? y architect would probably rise to his and holding up his right hand say: boards." He went on to quote from a olboy's essay upon the art. It ran: hitecture is just building, but build- that is nice. Niceness you may say is ntial, and very up-to-date. You d be surprised to hear how it keeps hanging. That is what makes it so to swot up. Buildings copy one her, and that is what is called style. man who looks after it is called an itect. You can always tell if it has looked after properly."

ncluding, he said that if life were ble without woman it would be in- able, and if art were tolerable without t would be useless.

dy Banister Fletcher responded to the .

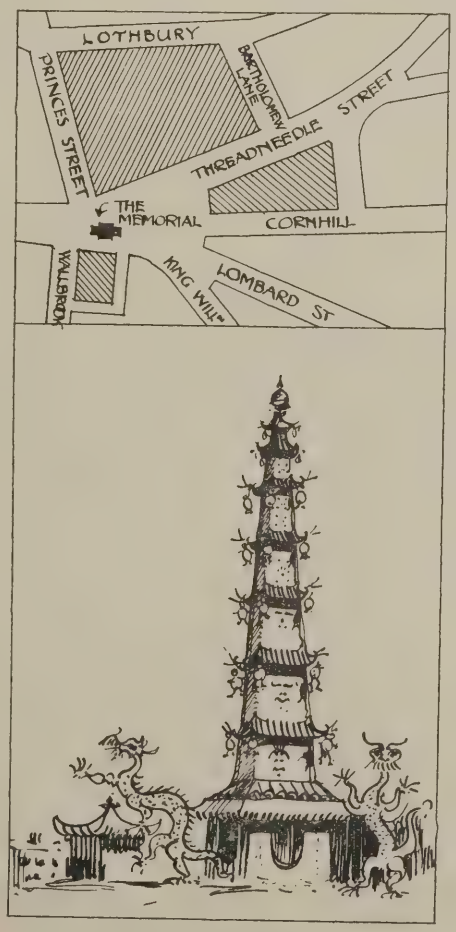
At the conclusion of the speeches Mr. Gilbert showed slides of some of his American work, including many views of the gigantic commercial building known as the Woolworth Building during its various stages of construction. Mr. Gilbert remarked that it would be seen that no scaffolding was used for the construction of American buildings, a feature which struck him as being entirely different from English and French methods. The Woolworth building was just under 800 ft. high—796 ft. to be exact —and the foundations went down 130 ft. The general excavation was 40 ft. deep. There were forty storeys in all, and during the day he supposed it was occupied by over ten thousand people. It might be that at times that number was doubled. In its design he had attempted nothing grandiose; he had only been occupied in dealing adequately with and expressing its enormous scale.

Correspondence

The National War Memorial: A Suggestion

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—In view of the widespread general interest which has been aroused by the recent publication of what may perhaps be called the semi-official proposal for a National War Memorial, I am encouraged to submit to you my design (which has been generally admired by all who have seen it) for a National Peace Memorial. My plan is, briefly, to clear the sites at present occupied by the Royal Exchange, the Mansion House, and the Bank of England and, on a portion of the space thus created, to erect a Chinese pagoda 407 ft. high, with joss houses and miscellaneous monsters as adjuncts.



If a flaw existed in the recent well-considered scheme, it lay, perhaps, in the adoption of a style of architecture not belonging to one of the Allied Powers, which point of weakness I avoid. All those who had the good fortune to participate in the recent war know the nature of a Chinese attack, and the present peace appears to conform somewhat well to the model—part of the delicate symbolism of my conception.

I suggest that the Royal Exchange should be re-erected at Barking or Cricklewood, and the Mansion House be moved to Hyde Park intact. The Bank of England I would abolish, confiscating the gold (if any) now in the vaults to finance the scheme.

I had hoped to be able to put this forward as the official proposal of the R.I.B.A., but that is, it seems, impossible.

ROBINSON HEATH.

[NOTE.—The pagoda, constructed of reinforced bamboo and purple porcelain, is decorated at the angles of each storey with gilt bells fashioned in the likeness of eminent war millionaires suspended by the neck with golden cords. The joss houses would contain card-index cabinets with tables of statistics giving the relative prices of all articles in common use in 1914 and 1920. The rampant dragons typify the spirit of militarism, so completely quelled by the recent war. It will be noted that an air of mystery—a sense of "something round the corner" is sought by the asymmetrical placing of the memorial; this also avoids disturbance of the Wellington statue—one of our few really worthy street memorials.]

Architectural Education

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I see in your issue for July 21 that Mr. Yerbury, Secretary of the Architectural Association, states in a letter that:

"Liverpool's five years' course is not altogether a new thing in this country, as the A.A. instituted a similar course at its school last year, and has already had the benefit of one session's experience with the course. I know this statement is rather contrary to what Mr. Budden says with regard to Liverpool being first in the field with such a course, but I am sure, with these facts before him, he will give us the credit of being at any rate one year in advance of Liverpool this time!"

I should willingly give Mr. Yerbury and the A.A. the credit for being one year in advance of Liverpool in this matter, if the facts justified that claim: but they do not.

Mr. Yerbury states that a five years' course was instituted at the A.A. in 1919.

The Liverpool course for the Degree of Bachelor of Architecture—a course of five years' duration—was established in 1910; that is nine years before the A.A. adopted their present Diploma Course.

The Liverpool Diploma Course was in operation in 1906. This, though theoretically of four years' duration, in practice almost invariably extended over five years. (In the case of both the old Liverpool Degree and Diploma Courses, the last two years were required to be spent partly in an approved office and partly in the school.) Liverpool's new Degree and Diploma Courses now both follow the

model of the old Degree Course in being five years in length, and only differ from it in the further elaboration of their curricula and in regulations which demand from students during the last two years a fuller attendance in the school than under the old Degree scheme.

I was, therefore, correct in my original statement of the facts. The Liverpool school anticipated the A.A. by nine years in the establishment of a five years' course, and has already had the benefit of ten sessions' experience with such a course. It was also first in the field in approaching the Board of Architectural Education and the Council of the Institute with a claim for the exemption of its graduates from the Final Examination of the Institute. LIONEL B. BUDDEN.

Societies and Institutions

The R.I.B.A.

The following is a report of the proceedings at the last council meeting of the R.I.B.A.:—

Model Public House Competition.—The president announced that the Court of the Brewers' Company had presented £500 to the Institute to be devoted to the payment of premiums in a competition for the design of a model public house. The President has consented to act as honorary assessor.

The Board of Architectural Education.—The council have approved of the formation of a committee of the board, confined to teachers, for the consideration of internal school subjects.

Exemption from the Final Examination.—On the recommendation of the board, the council have granted exemption from the final examination (subject to the limitations and conditions previously announced) to the successful students who have taken a five years' diploma or degree course at the Architectural Association, London, and the School of Architecture, Liverpool University.

The Preliminary Examination.—The council have approved of the holding of entrance examinations in drawing and geometry at the "recognised schools," and will accept a pass in these examinations as exempting from the preliminary examination of the R.I.B.A.

The Intermediate Examination.—Exemption from the intermediate examination is to be limited to students of "recognised schools" who have passed through a full time three years' course. Written examinations in the history of architecture and in building construction are to be part of the course in all "recognised schools" for exemption from the intermediate examination.

Annual Exhibitions of School Design Work.—All schools "recognised" for exemption from the intermediate and final examinations are to submit annually for exhibition at the R.I.B.A. (a) four designs (one showing construction) from each of the students who are passed by the school for the final examination in the previous session and (b) one design from each of the students passed for the intermediate examination.

Government Restrictions on Building.—The Stoppage of Building Committee is pursuing its enquiry into the effects of the recent restrictions on building, and, with the approval of the council, is inviting kindred societies and the representatives of business interests affected to appoint members to serve on the committee with a view to organising a public protest against the restrictive legislation which is hampering the industry.

The Ottawa Government Buildings Competition.—The council decided to brief counsel to appear at Ottawa in the action brought against the Canadian Government by the competitors in the first competition held in 1914.

Increase of Entrance Fees and Subscriptions.—The council received an intimation that the Privy Council had sanctioned the amendment of the by-laws to permit an increase in entrance fees and subscriptions.

Westminster Abbey Fund.—The council voted a contribution of 100 guineas to the fund for the repair of Westminster Abbey.

The Society of Architects.

Following are selected notes from the minutes of the Society of Architects:—

Victory Scholarship.—It was reported that further contributions had been received as a result of the president's appeal, and the members of the Council present individually agreed to endeavour to raise a definite sum. One contributor had offered an additional thirty guineas provided that a sum not less than £200 is raised within a month, and another had offered to add 5 per cent. to the amount raised every year for three years up to a maximum percentage of £50. The hope was expressed that these special offers would stimulate others and promote a friendly rivalry in completing the fund.

It was further reported that owing to circumstances arising out of the final competition in which the jury were concerned and over which the council had no control, a meeting of the interested parties had been held and recommendations made that the time for the completion of the final competition be extended. Under these circumstances the decision of the jury could not be received until the end of the year. The council adopted the recommendations.

House Lists, 1921.—The Council's li nominations were completed, and wil published in due course for the infor tion of members, who will have opportunity of making further nom tions before the final list is issued ballot by the members in October.

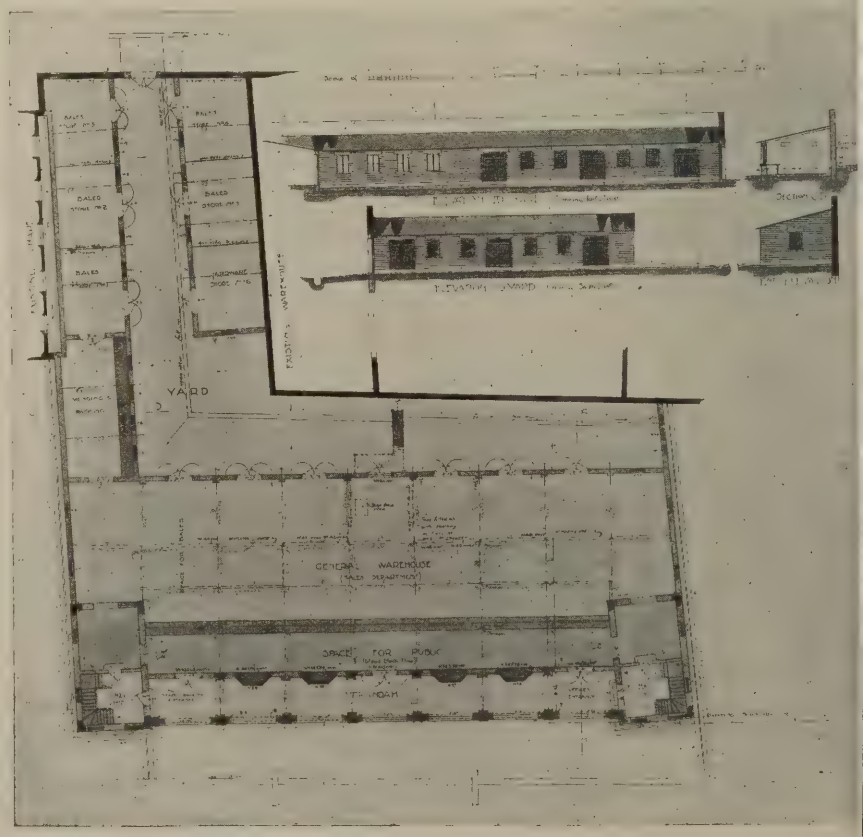
Research Committee.—A commu tion was received from the committe the Privy Council for Scientific and In trial Research stating that a Bu ing (Material and Construction) search Board had been established, asking that the Director of Building search might have access to the Socie library. It was agreed to give the d torate every facility for the use of library and to apply for representatio the Society on the research board.

Points of Practice.—The report of sub-committee on cases for considera showed that the committee had advis number of members on questions rela principally to housing fees, professi etiquette, and other points of practice

Competitions.—The report of this c mittee showed that in one case as a r of the promoters approaching the so at an early stage a committee of a sors nominated by the society had accepted by the promoters for the pur of acting as assessors and drawing u the conditions.

National Building Code.—The Soci representatives reported on their neg tions with the National Federatior Building Trades Employers, intima that they had urged the desirability dealing with the matter by means of conferences of all the professional bo concerned, rather than by separate m ings with the individual organisati The council agreed with the action of Society's representative.

London Master Builders' Associatio A communication from this associa



PLAN OF NEW BUILDING FOR THE SIERRA LEONE OLD COMPANY, SIERRA LEO

(See opposite page)

Sierra Leone, West Africa

Lionel U. Grace, F.R.I.B.A., Architect

This building is constructed of hollow concrete blocks made to 6½ in. courses by the "Syclops" machine, the 13 in. courses usually employed having been found too heavy for practical purposes. Messrs. Greene and Co., of Liverpool, were the contractors. The ground and first floors are used as shops and warehouse, and the top floor as living quarters. The building is covered with Delaboie slates. Native labour was employed throughout. All the joinery and woodwork is of pitch pine and was carried out in England.

sking the society to recommend mem-rs to invite tenders from Federated uilders only was referred to the Practice ommittee for their consideration and re-ort.

War Memorial.—A design by Mr. G. H. enyon (member) for the society's war emorial tablet was approved, and rangements made for it to be executed nd fixed in the entrance hall of the ociety's premises.

Publications Received

"A Standard Specification for Re-forced Concrete Work." Price 1s. 7d., ost free. The Concrete Institute, Deni-on House, 296, Vauxhall Bridge Road, estminster, London, S.W.1.

"The Theory and Practice of Lubrica-on: The 'Germ' Process." By Henry . Wells and James E. Southcombe, M.Sc. ociety of Chemical Industry, Central ouse, 46 and 47, Finsbury Square, E.C.2.

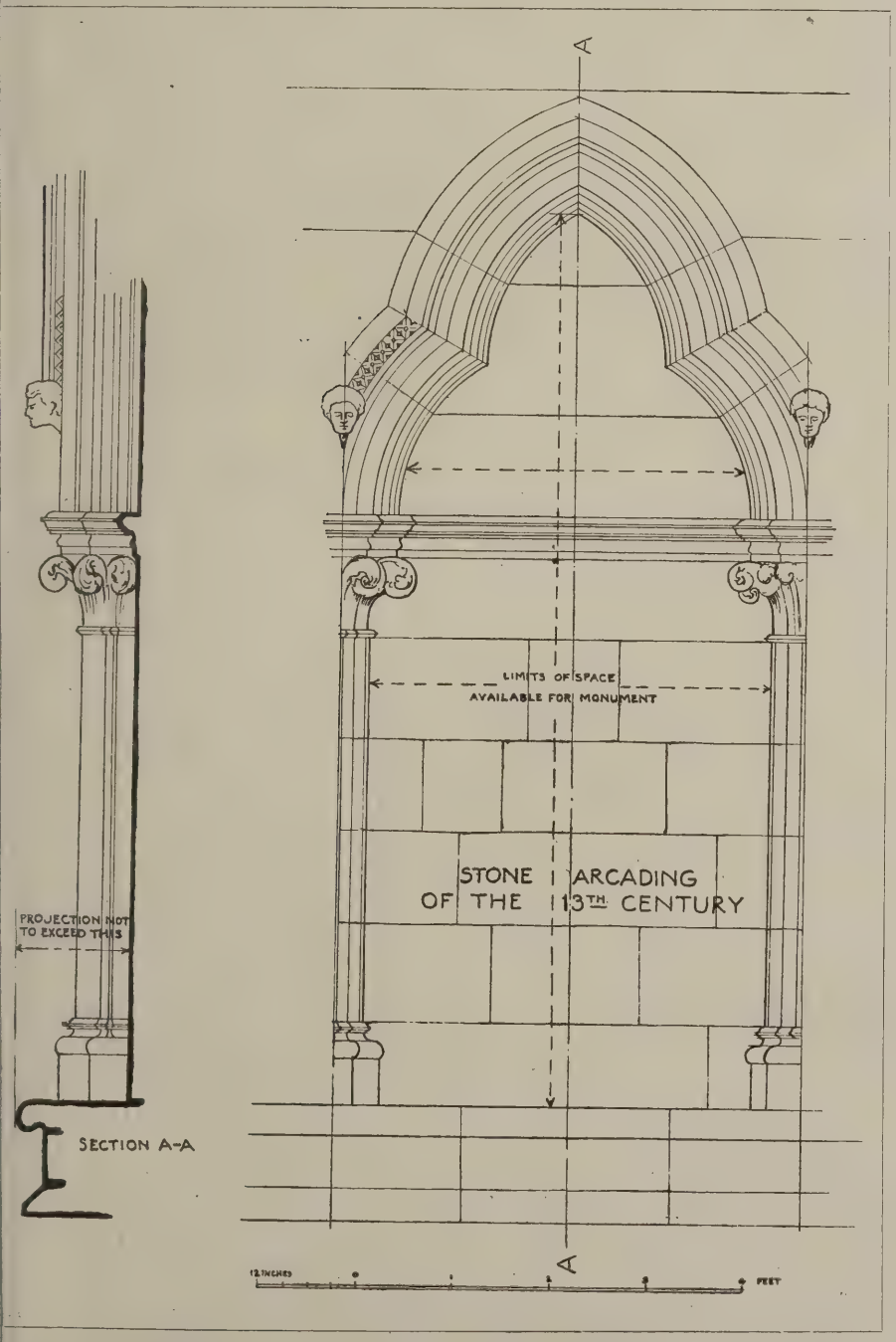
Competition News

Military Memorial, York Minster.

A memorial to officers and men of the K.O.Y.L.I. is to be erected, by permission of the Dean and Chapter, in York Minster, in the aisle reserved for the regimental memorials, and the Memorial Committee have decided to hold an open competition amongst architects and sculptors. The cost of the memorial is not to exceed £2,500.

The bay of the arcading set aside for the memorial is shown in the drawing on this page. The question of style is left to competitors. Existing work is not to be cut into or mutilated, but otherwise the whole of the space available may be utilised.

It is not proposed that the memorial should state the names of the fallen, as it is suggested that a book be used for this purpose, which must be referred to in the dedicatory inscription, forming an essential feature of the design.



BAY OF ARCADING, YORK MINSTER, RESERVED FOR K.O.Y.L.I. MEMORIAL.

Premiums are as follows: 1st., the commission. A sum of £100 will be divided, at the discretion of the assessors, amongst no fewer than four other competitors.

The assessors are Mr. Walter Tapper, F.R.I.B.A., Consulting Architect to the Dean and Chapter; Mr. H. V. Lanchester, F.R.I.B.A.; and Mr. Robert Atkinson, F.R.I.B.A., Director of Education, Architectural Association Schools.

Drawings to be 1½ in. scale, elevation, section, and plan. Rendered in any medium, and, if coloured materials are to be used, they must be indicated in colour. Drawings (which must be mounted), are to be delivered to 34 and 35, Bedford Square, W.C.1. on or before September 14, 1920.

If designs are received of which sculpture forms an important feature, a sculptor of note will be called in to join the assessors. No questions will be answered.

War Memorial, Hackney.

Stone or marble monumental memorial. Cost not exceeding £500. A premium of twenty guineas will be awarded to the person whose design is selected for erection. Designs, unsigned, and without motto or distinguishing mark of any kind, under seal, and endorsed "Memorial," must be addressed to Norman Scorgie, Hon. Secretary, Peace Celebration Committee, at the Town Hall, Mare Street, Hackney, E8. Closing date September 1, 1920.

Woking War Memorial.

Members of the Society of Architects are requested not to take any part in the above-named competition without first ascertaining from the Society that the conditions have been approved by the Council.

Parsons' Colour Scheme Competition.

In a competition promoted for the decoration of the exterior of 315-317, Oxford Street, W.1, the following awards have now been made:

1st prize, 100 guineas.—Mr. H. A. Rees, c.o. D. J. Thomas, Esq., M.S.A., High Street, Blackwood, Mon.; 2nd prize, 30 guineas.—Mr. Matt Steele, M.S.A., Union Street, Bo'ness, Scotland; 3rd prize, 15 guineas.—Mr. Neville A. Lyon, 19, New Square, Cambridge.

Consolation prizes of £5 have been awarded to the following:

Mr. J. Macgregor, A.R.I.B.A., 7, John Street, Adelphi, W.C.; Mr. J. Bruce Merson, L.R.I.B.A., 9, Lennox Gardens, Ilford, Essex; Mr. V. N. Rockingham, The Red House, Madingley, Cambs.; Mrs. Maufe, 139, Church Street, Chelsea, S.W.; Mr. J. S. Conacher, 49, Grafton Street, Tottenham Court Road, W.C.

The judges were: Sir Reginald Blomfield, R.A., M.A., Litt.D., F.S.A.; Sir Edwin Lutyens, R.A., F.R.I.B.A.; Sir David Murray, R.A., P.R.I., H.R.S.A.; Sir William Richmond, R.A., K.C.B., D.C.L.; Frank Brangwyn, R.A.

The presentation of the prizes takes place to-day at three o'clock. The judges have kindly promised to be present and will make a few remarks on colour decoration as applied to exterior work.

Sheffield.

War Memorial Halls. Assessors, Sir Aston Webb, K.C.V.O., P.R.A., and Mr. F. E. P. Edwards, F.R.I.B.A. Premiums £250, £150 and £100. Apply Mr. W. E. Hart, Town Clerk. Designs by July 31.

Liège, Lille, and Bermuda.

Other competitions open include a scheme for beautifying and extending the City of Lille, and war memorials for Liège and Hamilton, Bermuda, particulars of which have been published in previous issues.

Royal Sanitary Institute Birmingham Congres

THERE was a large and representative attendance of municipal and other officers from all parts of the country at the thirty-first congress of the Royal Sanitary Institute held at Birmingham during last week under the presidency of the Right Hon. Viscount Astor. The conference was divided into five sections, one of which, presided over by Mr. W. E. Riley, F.R.I.B.A., M.Inst.C.E., was devoted entirely to engineering and architecture. During the course of the congress an exhibition was held of appliances relating to health and domestic use, and visits were paid to a number of historical buildings, etc., in the district. Appended are extracts from Mr. Riley's address, and from the papers of especial interest to architects which were submitted to the congress for discussion:—

Housing and Slum Areas

By W. Edward Riley, F.R.I.B.A., R.B.A., M.Inst.C.E.

These are stirring times for both architects and engineers. After nearly six years of enforced unproductiveness the former profession is faced with the greatest anxiety in regard to the future. All the causes which have contributed to the dearth of houses could not readily be summarised, and it must be conceded that the lack of housing accommodation at this time is one of the most difficult factors to deal with in considering the future welfare of architecture. When we look for important causes contributing towards the dearth of this all-essential accommodation, we are compelled to enquire how far the Finance Act of 1909 was operative to stem the steady supply of this commodity before the war. I do not remember having seen any return, showing the amount of such accommodation as is now required, which was based on any thorough and exhaustive or reliable investigation.

The only machinery which it is thought could furnish unchallengeable details would be that obtainable from a census which will shortly become due. The Colonial, Allied, and other nomadic elements which were provided for when passing through the country during the war have intensified the adverse conditions, and data on the amount of this type of temporary residence can only be approximately estimated. It may be found that the estimates so far made are short of the facts. The taking of a census might have been undertaken immediately the armistice was signed, but this we failed to do. We did have a general election, and the machinery which was then put in motion to get at the electors, both at home and abroad, might well have been utilised to obtain the requisite data and facts.

The stagnation in building works at the present time is largely due to hampering restrictions imposed to accelerate housing, the astounding advance in the cost of building, and the effort to get rid of the conditions which had to be undertaken to prosecute the war with vigour; but the suspension of housing building by those who had been engaged in its production was being seriously felt before the war was declared. It should be remembered that private enterprise had supplied practically 95 per cent. of the demand for working class dwellings. It ought therefore to have been obvious that an effort to resume this work, with cost of labour and materials uninterruptedly rising, rent being stagnant by protection, subsidies being offered to local authorities and none originally to the builder of the pre-war houses, entailed, after a long cessation of production, a probable reversing of the figure of 95 per cent. in such a way as to place the burden upon local and other centralised authorities, even if the 5 per cent. of the requirement could be carried out by private enterprise. The solution of the problem has so far shown no sign of being accomplished. It should have been attacked systematically with undisputed knowledge of the problem. Large factories were erected in parts of the country where factory production had, prior to the war, been unknown. These establishments, hastily built for war purposes, generally involved the erection of accommodation for the workers in a rapid and, therefore, not of a permanent type of construction, to meet the emergencies of a national struggle for which we were totally unprepared. Had reasonable forethought been exercised this accommodation could have been put together in a way that would readily have allowed it to be used elsewhere, and that much to the good could have been available to tide over whatever shortage exists.

The failure of some of the loans which have been offered for subscription by local authorities for housing purposes is probably attributable to the want of exact knowledge of the requirements; a census would have supplied this in an unmistakable way. So long as this great question of accommodation remains unsettled, private enterprise must necessarily be severely crippled. The limitation of the freedom to develop the output of buildings devoted to any purpose that private enterprise is willing to embark upon must paralyse production, and thereby stultify the free use of capital which is the first condition necessary to assure a future discharge of the huge financial burden oppressing every section of the community with brain and capital to employ. The sooner restrictions are entirely removed the quicker will be the reversion to a more normal condition of affairs and the advent of the over-due progress and prosperity on which so much depends.

The enormous extra cost involved in the building and equipment of even small residences behoves us to be specially insistent to apply any capital available in the most enduring, economical, and useful manner. If we are dealing with this question in large towns it generally arises that, before constructional operations can be undertaken, slum areas of some kind will have to be cleared. Ingenious methods have been employed in the City of Birmingham to render slums less objectionable, nay, even making them comply with the health by-laws without serious destruction, and it is probable that a development of this idea, thus saving every habitable tenement for the time being when the scarceness is acute, would be the most expedient way in which to proceed. It would, moreover, tend to tide over the period of transition from what exists to what is required without such great disturbance as would otherwise be necessary.

In large cities there is always an effort made by town-bred workers to save both time and the expense of travel by liv near their work, though statistics wh have been compiled in relation to t question are not so convincing as mi be expected, and it is doubtful whethe partial solution of the problem in crow areas of industry will not be found in direction of erecting block dwellings n the workshops, or, on the other ha lateral extension of towns and accomr dation of the workers in garden cities, not furnish the more popular solution. should always be remembered that wl the manufacturing industry is establisl in a particular district it is difficult remove the interest without serious lc and that, doubtless, will be found an i portant factor in dealing with the futı housing of those residing in large cit who are wishful of living near their wo Experience has shown that it is mu more economical to provide accommo tion in suburban areas.

The greatly increased travelling facilit tend to favour the provision in the futı of self-contained cottages, even where c tance has to be accomplished; the cl dren can be brought up in happier a healthier surroundings; they unco sciously absorb a cleaner observation nature, a more practical knowledge of t usefulness of life, and a tone which altogether better than the astuteness a superficial smartness which is often t outcome of an undiluted city life. T important factor of a good physique h moreover, a better chance of developme in open bucolic surroundings, and there no doubt that future generations wou greatly benefit by this method of housi the workers.

The Case for Higher Building

By Delissa Joseph, F.R.I.B.A.

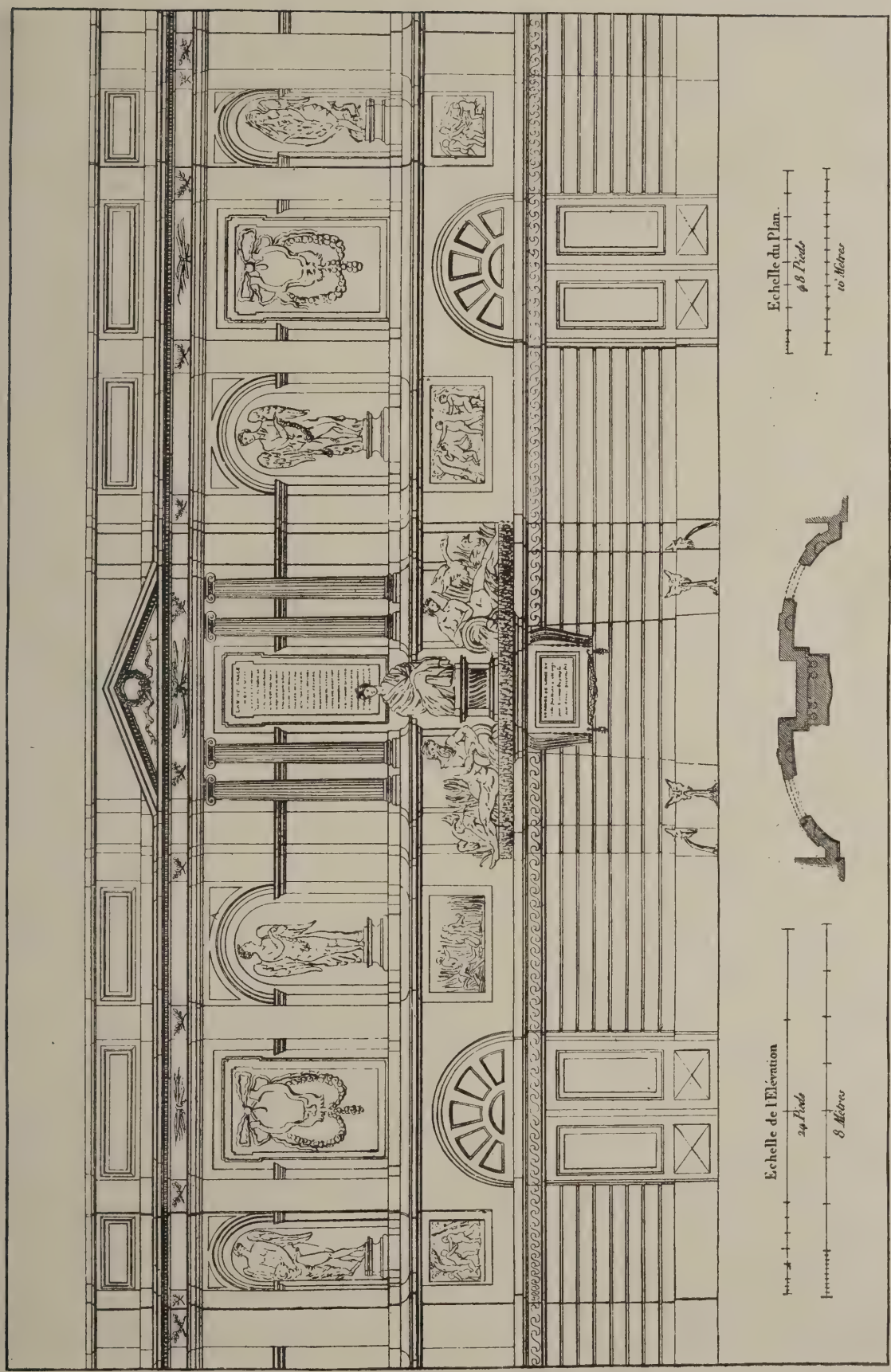
Strange as it may seem, the fact mains that London, so far as its centı districts are concerned, is an und developed city, and if it is to hold own some means must be found for e abling it to grow, not outwards but u wards. New York solved its proble by raising its buildings to 350 feet height, in the face of great opposition. I daring was justified, and it continued extend the height of its buildings un they reached 750 feet.

However, the remedy I have to offer f overcoming the shortage of accommod tion in London completely excludes tl "sky-scraper." I merely call for the i troduction of such elasticity in tl Building Act as will enable the adequa development of London to be attaine with due regard to safety and amenit The present London Building Act wa drawn up twenty-five years ag Enormous changes in the methods of co struction and methods of fire resistan have since come about.

The present provision is that no buil ing shall be higher than 80 feet from tl pavement level to the top of the fro wall, and that two additonal storeys ma be erected in a roof above same. Ther is nothing in the Act limiting the heigl of the two storeys in the roof, and the might well be each 20 feet in height, bu they rarely exceed 10 feet in heigh Therefore one may regard such building as being 100 feet in height to the top c the topmost storey. There is a provisio

Fountains. 3.—Fountain in Rue de Grenelle, Paris

E. Bouchardon, Sculptor



In this very fine composition, which was carried out in 1739, the fountain itself is negligible, the main scheme comprising a segmental composition 38 ft. in height, with a central group of figures on a pier below a pediment supported by coupled columns, niches and sunk panels embellished with figures of the seasons. Appropriate reliefs are ranged on either side. The central group comprises a seated female figure of the City of Paris, supported by figures of the Seine and Marne.

e Act that, in the case of domestic ings, the rear line of such buildings be kept within an angle of 63½ es from 16 feet above the pavement and there is a further provision in the case of buildings above 60 n height, there shall be an alterna- neans of escape in case of fire. These et buildings are permitted in any which has been constructed before however narrow that street may be. at, for example, in a City street 25 wide there is nothing to prevent a ng 100 feet high being erected ex- he exigencies of the law of "ancient ," which frequently prevent a full opment being effected.

o not propose that any change should ade in the law with regard to build- in any street which is less than 80 n width, but I suggest that, in the of streets of greater width between opposite houses than 80 feet, the ngs therein should be entitled to be d up an additional foot of height, d the 80 feet of height, for every onal foot of width in the street d the width of 80 feet.

the case of buildings facing parks, squares, open spaces, commons, and iverside they shall be enabled to be d up to a square height of 200 feet the pavement level, with the fol- g provisions:—That the rear line, in ase of domestic buildings, shall re- as in the present Act, within 63½ es of 16 feet above the pavement that the structures shall be of fire- ng material; that they shall have not than two external fire-escape stair- ; that they shall be fitted with in- dry pipes, which can readily be cted up with the street mains and the pumps, and from each of these al dry pipes a nozzle with hose shall ovided on each floor level. Last, ot least, the elevation of these build- shall be subject to the approval of London County Council, or of the try of Fine Arts when established.

ere are no practical difficulties in ng out such a development as is outlined. The clay subsoil of on which, in parts, is from 400 to eet deep, would easily carry the t of these buildings. Steel frame uction, encased in fire-resisting ial, would be employed, as it is y employed in the 80-feet buildings. system of dry pipes, which is r to that used in New York, would e facilities for rapidly putting out The external escape staircase would not merely a ready means of escape se of fire, but an easy means of to the fire by the firemen. These buildings would be served by electric The lifts would at least be dupli- if not quadrupled. The size of the ngs would justify the introduction of l heating to all rooms, staircases, orridors, and hot water would be ble in all lavatories and bathrooms nd night. This co-operative system be developed in other directions by stablishment of a telephone switch- in the basement, linking up all nents, and by the establishment of office bureau on the ground floor e delivery and dispatch of letters; to be posted down a letter chute each landing. All questions of ation, construction, sanitation, and of escape are already under the l of local authorities, and it is pro- to extend that control to the question of external design. I have lately read a paper before the R.I.B.A., developing this idea, and the Institute has appointed a special committee to consider the modification of the London Building Act, particularly in regard to the suggestion for higher buildings. The London County Council has itself recently referred the question to its Building Acts Committee, and the Corporation of the City of London has referred the matter to the City Lands Committee for consideration. There is, therefore, every probability that, from these three groups of investigation, some practicable scheme will be evolved which will result in such a modification of the London Building Act as to render possible the erection in London of higher buildings.

Some Essentials in Factory Building

By Herbert T. Buckland, F.R.I.B.A.

The location of the site should be governed to some extent by the labour available in the district, and a spot should be chosen either where there is a large working population close at hand, or in such a position that the workpeople can conveniently be conveyed to the works, either by rail, tram, or motor-bus. Convenient access by rail is essential for the supply of raw materials and the despatch of the finished products. The proximity of a canal is also very desirable. All large works will require their own railway sidings, and many of them a canal arm. It will, I think, usually be found there is a tendency to underestimate the quantity of railway siding required. If a canal arm is required it will be well to consider the position of it at an early stage, as it is likely to require a good deal of room, and need careful planning so that it may not interfere with the proper development of the site. Any enquiries for a site must be accompanied by investigations as to the water, gas, electricity, sewers, and other services available, points too often neglected.

Considerations with regard to the type of plan to be adopted largely affect the area of the site required, and this, in its turn, depends upon the sites available in the district in which it is proposed to build, if for special reasons, such as the labour supply or the proximity of a supply of coal or raw material, some special district is decided upon. This naturally raises the general question of whether it is better—assuming no other considerations to be of paramount importance—to build upon one or more floors. Chiefly on account of the desire to erect buildings of a temporary character for the purpose of the manufacture of munitions of war the majority of the factory buildings put up during the last four years have been of one storey only, and I think there is a consensus of opinion among manufacturers that this is the most convenient type of plan; the reasons are not far to seek. The labour in moving raw material and the products in course of manufacture is reduced to a minimum, supervision is made easy, and the problem of lighting is simplified.

Before the war the roof known as "saw tooth" was almost invariably adopted for one-storey shopping. I recently had the opportunity of discussing this question of roof lighting with a works engineer, whose opinion I value very highly, as he has not only designed and erected a variety of workshops, but has supervised the work done in them afterwards, and had the opportunity of studying results. I will quote his conclusions as they were given to me: "I have no hesitation in saying that the 'saw' type of roof with the lights facing north, is the most suitable of all roofs, and particularly lends itself to easy and rapid construction. The principals can be made of steel, reinforced concrete, or wood. The gutters can be made of cast iron, and when made of such, pockets can be cast on the sides of the gutters to take and support the wood principals, which makes it a very satisfactory and a fairly cheap job. If buildings are required for cranes, the building in such a case would have to be as follows: Gantry, 20 to 25 ft. high, and the eaves of the building 8 to 10 ft. higher, making in all 30 to 35 ft. For such a building a span roof is very suitable, and the sun does not have the same effect when the roof is so high as when the eaves are only 12 to 14 ft. high; in fact, a shop of the latter height should never be built in such a way that the sun can shine through the roof, but this does not apply when the roof is 30 to 35 ft. high."

With the large roof area one gets in a one-storey factory of any size the question of the disposal of storm water is one which needs more careful consideration than is usually given to it; in a heavy storm the volume of water to be dealt with is considerable, and the size of the drains provided needs to be calculated carefully, especially as it is improbable that any great fall will be obtainable owing to the long lengths of drain and the level of the site, which obviously should be as flat as possible.

Before commencing to plan any factory it is essential an architect should study in an existing factory the process of manufacture, and take particulars of the sizes of the machines and the areas which will be required round them for convenient working, and the relation of the different processes to each other. Having made a machine-setting-out plan, it will then be possible to arrive at sizes and widths of bays, and proceed to a solution of the problem so far as the manufacture is concerned; examination, sorting and packing will follow, and accommodation for them will need consideration. From the packing room the parcels of finished goods will be conveyed by trolleys to the finished warehouse ready for despatch by rail.

Adequate lavatory and other sanitary accommodation should be grouped with the cloakrooms in a separate apartment, if possible, and all under the supervision of a special attendant.

Whether natural or artificial, the lighting of the factory should be adequate and as constant as possible. Roof lighting is generally considered preferable to lateral lighting, and a north light is thought to be the best. Where lateral lighting is necessary, the question of the height of rooms in relation to their width is an important one. Pulleys and belting are greatly obstructive to light. Light-coloured walls and white ceilings add much to the general brightness of a shop. Dirty windows or roof lights cause a great loss of daylight, and it is important to give facilities for easy cleaning from within as well as from without. It may safely be said that it is impossible to give too much light.

In ventilating the factory, clean air as well as a stimulating atmosphere should be the aim in view, the essential requirements being freshness and movement.

Cool air is more stimulating than warm, and dry air is preferable to damp. The proportions of carbonic acid in the air of a room are no longer regarded as the infallible test of the ventilation as they were about ten years ago, and movement is now regarded as the chief essential.

In the provision of lavatories there are one or two important details which should be borne in mind. Sufficient provision must be made for draining the floor, which should be smooth, hard, and impervious, and properly graded and sloped. Any walls against which basins are placed should be faced with impervious and easily-cleaned material. The sanitary fittings should be very strong and durable and free from loose parts such as plugs and chains, and be adequately secured either to the walls or stands and have a good supply of hot and cold water. Waste pipes of a sufficient size are essential, and fewer stoppages are likely to occur if they discharge on to open floor channels at frequent intervals and avoid long runs of horizontal pipe. Washing troughs are regarded as preferable to separate basins.

The Renovation and Remodelling of Country Cottages

By Miss A. CHURTON, Secretary, Rural Housing and Sanitation Association.

The need for preserving every country cottage that can be made into a healthy home will be admitted by all to be a most urgent matter at the present time. While the building of new cottages is of first importance this is of scarcely less moment, since every cottage so preserved may really be reckoned as an addition to the national housing accommodation. The main hindrance to the supply of cottages now is the enormously enhanced cost of building. Although such renovation and remodelling would undoubtedly be costly, probably in no case would it be so costly as the building of a new cottage. There will be less initial preparation of the site, less material to supply, fewer loads to transport; thus the three main factors of cost—labour, material, and transport will all be less.

Granting that renovation and remodelling of the suitable cottages are both desirable and economical, by what agencies can they be effected? Such work can be done both by the local authorities and by private individuals, or by co-operation between the two. Under Section 12 (1) of the Housing, Town Planning, etc., Act, 1919, local authorities may acquire houses and "alter, enlarge, repair, and improve" them. Although we appreciate the difficulties that must be faced and overcome in doing this kind of work, we would urge upon the rural district councils its necessity and value.

We must not forget that among the owners of cottage property are those who fully realise their responsibility as owners, and not only do their best to keep their cottages in repair, but when the need arises are prepared to build on an extra bedroom or washhouse and to introduce some of the conveniences which a higher standard of living requires; but there are many small owners whose means will not allow of such an outlay as a remodelled cottage requires. In such cases the rural district council is empowered under Section 22 of the Housing, Town Planning, etc., Act, 1919, to make a loan to the owner for the "reconstruction, enlargement, or improvement" of the cottages, the limit of the amount advanced being half the value of the property. Some of these smaller owners, however, sooner than adopt this course, would prefer to sell their depreciating property. Here and there, up and down the country, members of the Rural Housing Association and others have availed themselves of such opportunities to buy up cottages, repair, and improve them without displacing the tenants, and to retain the management in their own hands, thus ensuring proper supervision both of the property and of the well-being of the tenants, working in a smaller way in the country districts along the lines laid down by Miss Octavia Hill for London and the large towns.

Generally speaking, the most usual improvements needed are the addition of a third bedroom, proper provision for food storage, the remedying of dampness, improvement of ventilation and lighting, better facilities for the family washing and cooking, water supply, and sanitary arrangements. With regard to the more extensive improvements needed for those intended for families a few hints may be added. As to the addition of a third bedroom this is sometimes possible by carrying up the scullery walls. Many an ill-planned cottage has been made satisfactory with the minimum amount of structural alteration.

What is wanted is that every rural and parish council should set to work and make complete lists for each parish of houses which are capable of being made habitable, and get a competent architect to say what is needed in each case. Then if the owner will not or cannot do the work the council should take over the cottages and do the work themselves.

During the year the Society for the Protection of Ancient Buildings has been drawing public attention to the repair of cottages, particularly to those which are examples of the last lingering traditions of mediæval craftsmanship. Cottages are found built toward the end of the eighteenth century which are examples of the knowledge which was current in the fifteenth century. The society maintains that this class of cottage should be retained in good order as examples of good workmanship, and that, once they are properly repaired, good houses will be secured at about one-third the cost of the new ones that are building.

Hot Water and Domestic Supply Services

The Federation of Engineering and Shipbuilding Trades has made the following award, to date from June 28 last, with regard to demarcation of work between heating and domestic engineers, and plumbers: "That the plumbers have failed to establish any claim to the exclusive right to fix all pipes and fittings in hard metals used in connection with ventilation, heating, warming, laundry, cooking, and general hot and cold water domestic (or other) supplies or services. (1) That all lead work in connection with hot and cold water, domestic (or other) supplies and services shall be plumbers' work. (2) That all other work in connection with ventilation, heating, warming, laundry, cooking, and general hot and cold water domestic (or other) supplies or services, in which iron, brass, copper, or other similar hard metal piping is used, may be done by the heating and domestic engineers, fitters, or by plumbers." In disallowing the plumbers' claims the award is to the same effect as the award for the Leicester District made by the Board of Trade arbitrator on November 30, 190 The award, which is a trades union dec sion, is national, and applies througho the country.

The Ideal Public-Hous Competition

The awards in the above competitic have now been made by the assessor, M W. Curtis Green, F.R.I.B.A., as follow

1st Prize.—Mr. Will Kidd, 21, El Park Mansions, Chelsea.

2nd Prize. — Mr. Charles Cowle Voysey, 88, Gower Street, London, W.

3rd Prize.—Mr. T. A. Lodge, 1a. Gre ville Place, South Kensington, S.W.7.

The drawings are now on exhibition the galleries of the R.I.B.A., 9, Cond Street, W.

More than 100 sets of designs we submitted; and it has to be recorded th while many are very good, the gre majority do not rise above the level mediocrity.

The conception of the "ideal" architecture, as with anything else, m vary with the individual mind; but it is mystery to us how the "ideal" publ house can possibly be conceived as elementary school, a barn, a bungalow, a country mansion. Many of the desig have a strong resemblance to su unsuitable types of structure. It is a pi that competitors did not bear more clea in mind the stipulation made in the co ditions that "externally the buildi should be . . . on the lines of eighteenth-century inn."

The authors of the three premiat schemes have all produced designs th comply with this condition, though t winner seems to have given more atte tion to plan than to elevation. Externa his design is a little on the dull side, b the plan is very clever in its solution the difficulties involved. It is best d scribed in the winner's own word "Generally the plan has been arranged reduce the floor and roof spans as mu as possible. The disposition of roo allows direct services from the cent service bar, which can be closed duri prohibited hours without interfering wi the sale of non-alcoholic drinks a refreshments. There is direct supervisi of the bar and public rooms from t manager's office. Direct service is pr vided from the kitchen to all rooms wi out passing through the service bar." T plan is simplicity itself, with the bar the middle and smoking room and loun or club in single-storey pavilions left a right respectively.

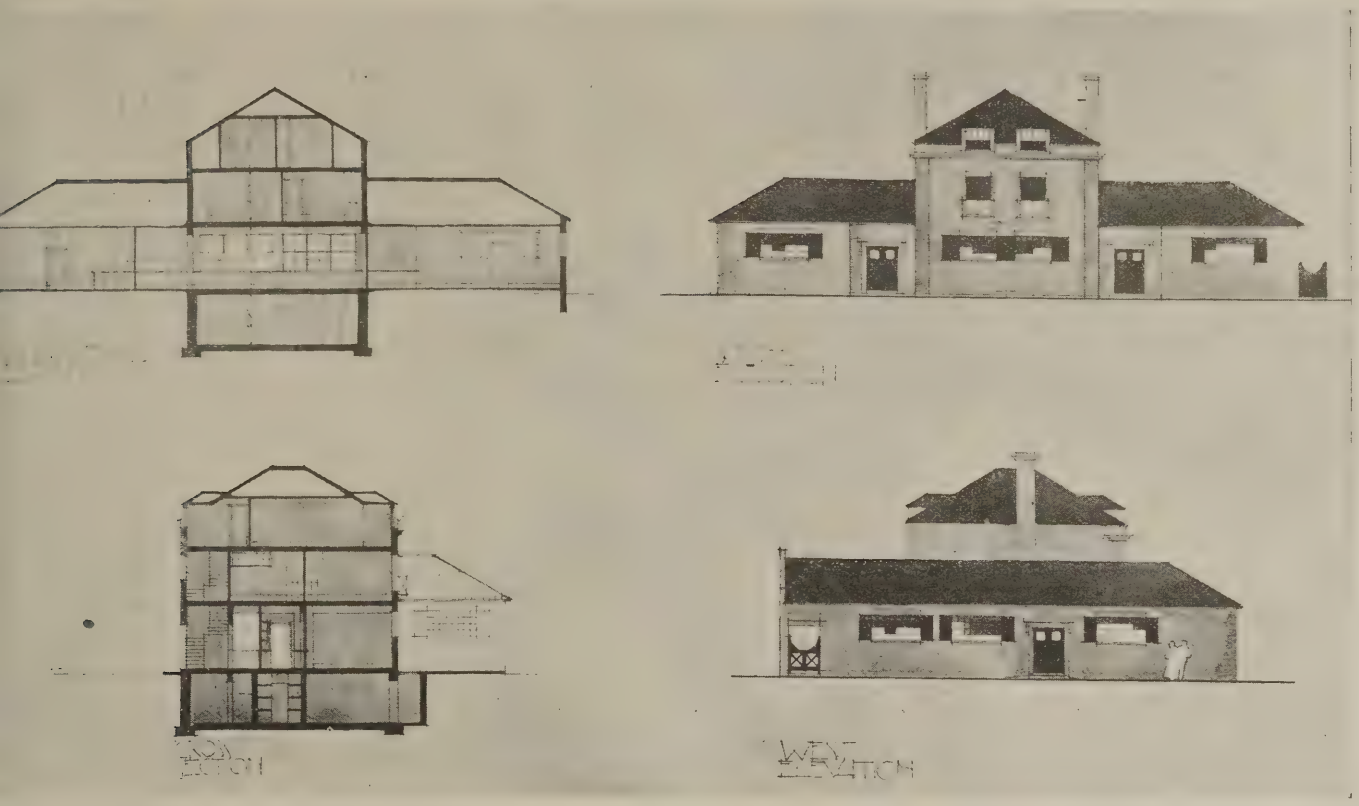
The designs placed second and thi are more attractive architecturally th the winner, but they are not so cleve planned. Mr. Cowles-Voysey has pr duced an elevation that has all the d lightful simplicity and charm of t "Georgian" period; while Mr. Lodge successful in the same manner, if a lit more sedate. Several other designs a quite excellent architecturally, partic larly those numbered 15, 117, and 192.

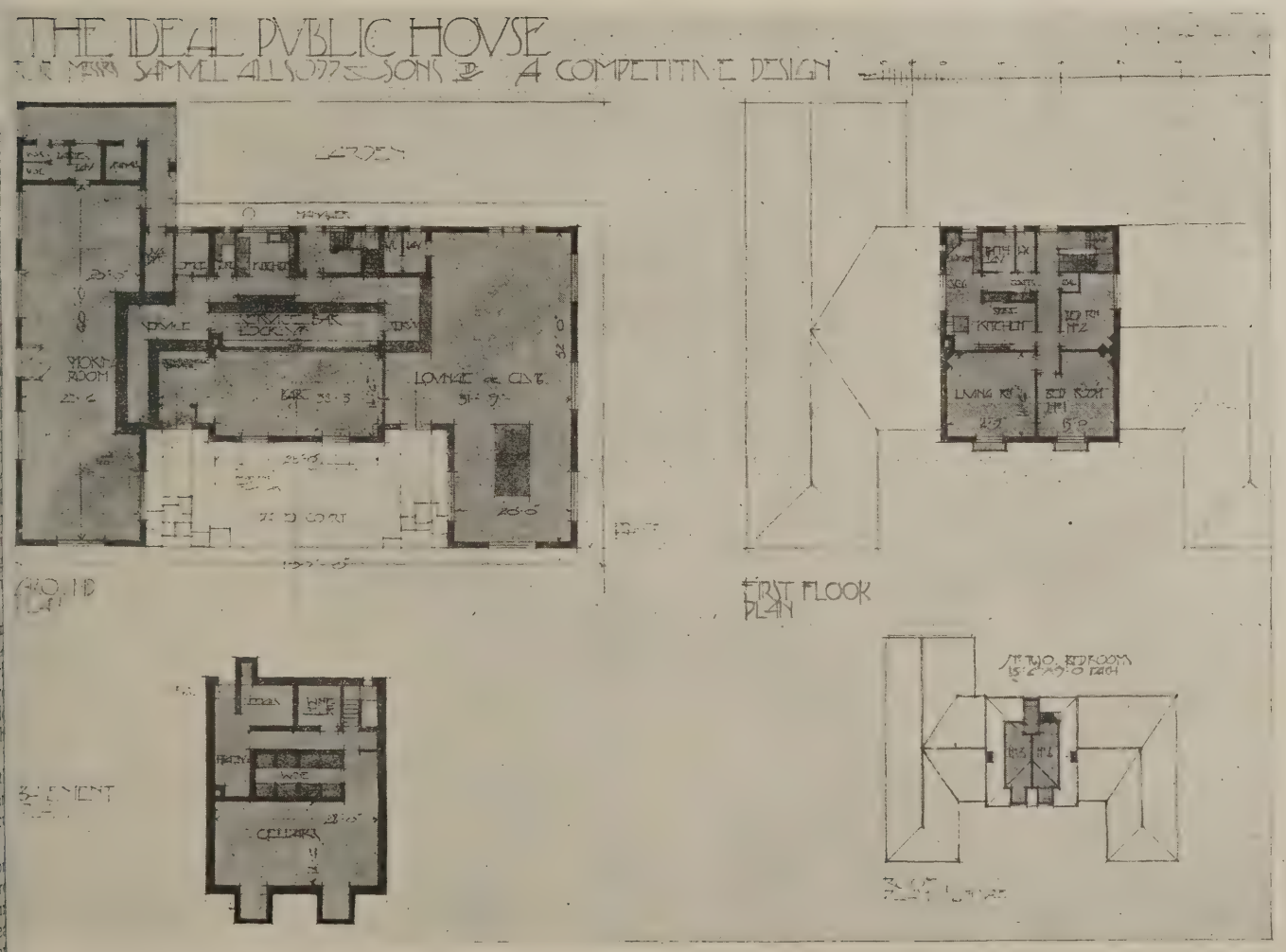
Messrs. Allsopp and Sons are to be co gratulated on their enterprise in pr moting this competition, which is an u doubted success, if only for the new ide it has produced in the design and pla ning of a type of building that has beco a byword and a reproach.

The successful design is illustrated the opposite page.

urrent Architecture. 34.—Ideal Public House Competition: First Premiated Design

Will Kidd, Architect





(See Notes on opposite page.)

UNIVERSITY OF ILLINOIS LIBRARY
AUG 27 1968

Enquiries Answered

Iouse Building and House Ownership.

A FOREIGN CORRESPONDENT writes: 1. Are English garden cities for workıen constructed by building companies, r by individuals, and are such enterrises aided by the State, by county ouncils, etc., and, if so, to what extent?

"2. How does the workman pay for his ouse if he proposes to buy it? Weekly? f so, what is the average amount of such eekly payment? What percentage does ıis represent of his wage? In the case of eath, is there any life insurance policy dopted by which the house becomes the roperty of the next of kin without furıer payment? If not, what happens to ıe amount already paid before decease?

"3. It has been noticed that only a very nall portion of ground suitable for culvation is attached to English dwellings. ; this due to the fact that cultivation of ıch ground for vegetables, etc., is not eveloped in England; lack of space; or ıat such products (particularly from the olonies) can be bought very cheaply?"

—The following information may be of se, but the war has so greatly unsettled l conditions of house building and house vnership that it is impossible to give any ry definite data.

1. English garden cities for workmen ıve been constructed (*a*) by associations rmed with this object by shareholders ıose liability is limited to the extent of eir investment; (*b*) by manufacturers, ine-owners, etc. (examples, Cadbury's ocoa) at Bournville, and Lord Leverılme (soap) at Port Sunlight); and (*c*) ondon County Council and a few other unicipalities. (*a*) Often arrange that the nant shall be a shareholder; (*b*) seldom never sell, otherwise they would lose ntrol over the dwellings built for their n workmen; (*c*) seldom or never sell; ey pay for the entire scheme out of the tes, and the State has hitherto given no sistance to any garden city movement. he subsidy that is being offered by the ate for the encouragement of building es not refer specially to garden-city ıemes, but does not exclude them, proled the houses are of working-class (as tinguished from middle-class) standrd. This housing movement makes no ovision for the ownership of the houses.)

2. Generally, if a workman wishes to y a house he pays for it through a ilding society, which lends him the ce of the house, which he pays over to owner in a lump sum. At the same ıe he signs a deed of mortgage, pawn the house to the building society, and dertaking to pay back the loan within erm of years, usually varying from five sixteen, by monthly or quarterly instalnts, which include a fraction of the ncipal borrowed, and interest on the ncipal, and, of course, he pays no rent. ere have been cases in which the ıers of large estates, such as that at el Park (Wood Green, London, N.), e charged a slightly higher rent than mal, and have allowed the rent to nt as payments towards purchase, but h cases are rare. The average amount such rent is difficult to ascertain. ere was considerable variation even in mal times, and under present condiıs the variation is greatly accentuated, differs greatly with the district. In ıy cases the weekly rent would amount adays to fully one-fourth of the ker's wage. A building society mortıe is usually subject to "equity of reıption." If the payments are not kept up and the mortgage is foreclosed, some fraction of the payments is returned; and usually, in the event of death, it is made optional for the heirs and successors to continue the purchase. The co-operative societies have special schemes.

2. Urban workmen have usually neither time nor inclination for cultivating vegetables, and the ground in urban districts is too costly to devote to agricultural uses. The town workman can buy vegetables much cheaper than he could raise them; but they cannot be bought (as you suggest) "very cheaply."

Termination of the War.

SUBSCRIBER writes: "In certain contracts the phrase occurs: So many months 'from the date of the termination of the present state of war.' Would you please inform me whether any legal date has been fixed for above?"

—The date of the termination of the war as a whole has yet to be fixed by Order in Council, and that will not be till the last of the treaties of peace has been signed and ratified.

Presentation to Mr. A. B. Gibbons

The staff and employees of James Gibbons, Ltd., of St. John's Works, Wolverhampton, gathered together on July 14 to make a presentation to Mr. A. B. Gibbons—the eldest son of the principal of the firm, Mr. F. J. J. Gibbons—on his attaining the age of twenty-one years. Among those present were Mr. and Mrs. F. J. J. Gibbons, Miss Angela Gibbons, Mr. Anthony Gibbons, and Mr. Paul Gibbons.

Mr. James Crowe, vice-chairman of the Works Committee, presided, and remarked that their employees included members whose length of service with the firm were fifty-three, fifty-two, fifty, and forty-seven, down to thirty years. He thanked Mr. F. J. J. Gibbons on behalf of the employees for his generosity in connection with the works trip, which was held on July 3.

Mr. W. Hands, one of the oldest employees (fifty years' service), made the presentation to Mr. A. B. Gibbons, which took the form of a handsome travelling-case, fully equipped. He said that he had worked under Mr. F. J. J. Gibbons's father, and when he came there were just thirty workpeople. He was proud he had been able to serve the firm for so long and to see it become one of the most important manufacturng concerns in the Midlands.

Mr. John Hayes, the oldest member of the staff (forty-seven years' service), then asked Mr. A. B. Gibbons to accept a portable gramophone from the staff.

Mr. A. B. Gibbons, in reply, expressed his heartfelt thanks for the kindness shown to him by the employees and staff, and stated that very shortly he hoped to be with them, and it would be his endeavour to foster the good feeling that at present exists between the workpeople and his father.

Mr. F. J. J. Gibbons also spoke, and stated that the firm had been in existence for practically 150 years, and that his son, whom they were honouring that day, is the fifth generation. He himself had been connected with the business for forty-four years, and he was happy to say there had been very little trouble during that period, and he hoped the good feeling would continue for many years to come.

Sir Thomas Jackson on Symbolism

Sir Thomas G. Jackson, R.A., has addressed the following letter to "The Times" with regard to the pylon designed by Sir Frank Baines and suggested to be erected at Hyde Park Corner. The design was illustrated in our last issue:—

"The controversy about the 'Pylon' makes one wonder what would be the effect on literature did authors follow the method of the modern architect.

"Imagine a man sitting down to write a eulogy of our fallen heroes in the manner of the author of this monstrous pylon. 'What style,' he would say, 'will best befit this great and magnificent subject? I must choose the very best. Shall I do it in the manner of Macaulay or Froude? No; we want something less narrative. Swift is a master of English, but he is better for satire. Then, of course, there is Gibbon, or, better still, Burke, with his Essay on the Sublime; that might do. But perhaps the sonorous prose of Milton would be better still. I think I will do it in the style of the Areopagitica.'

"Fortunately, our literary men do not work thus, but write in their own natural way. But that is exactly how the fanatic worshipper of styles in architecture works nowadays. One would think an architect called upon for such an occasion as this would, if he were worthy of it, set to work to evolve from his imagination a suitable design. Nothing of the sort usually happens. He would first hesitate between Gothic and classic. In the days of Sir William Chambers even Chinese might have swum within his ken. None of these commending themselves in the present case, Egyptian architecture occurs to his imagination. It is big, at all events—gigantic—and, as 'The Times' says, 'most suitable for immense scale and grandeur.' The architect's ambition, we are told, clearly was 'that the monument should be the most distinctive object in London.' It was to be, that is, a sort of Eiffel Tower in stone instead of iron. Consequently we get the design which has been illustrated in your columns—a pylon which if not modern is certainly not Egyptian, one point, at all events, and I think the only one, in its favour. Right and left of it are temples. Temples to whom? To the immortal dead? But they are already enshrined in our hearts, and want no such fanes as these. The idea, we are told, is to 'embody one great idea—that of sacrifice.' This idea we are supposed to recognise in a mountain of stone built in an alien style belongng to a people and a civilisation of five or six thousand years ago, with whom we have nothing in common, erected in honour of brave English men and lads of the twentieth century, who would have understood no more of Egyptian than of Hebrew, and cared for it as little.

"The symbolism which is introduced is as little suited to modern ideas as the pylon itself. Symbolism belongs to the time when people could not read and had to be taught by pictures instead. It lost its meaning as knowledge spread, and was brushed aside by artists as art matured. The higher art really began when symbolism ended. Our national monuments, like the Arch of Titus at Rome, should be historic, not symbolic.

"I trust English common sense will condemn the megalomania which has inspired this extravagant design. It is an

offence against reason and good taste. As Burke well puts it, 'designs that are great only by their dimensions are always the sign of a common and low imagination.'

"Finally, I would ask whether this is the time for spending tens or hundreds of thousands of pounds on this monstrosity, when most of us are being bled white by taxes, rates, and charitable calls which one cannot resist for really urgent needs on our reduced resources; especially as there is not a parish in the kingdom where monuments are not being erected to our mighty dead where they will be seen daily by those who loved and mourn them."

Since Sir Thomas Jackson's letter to "The Times" Sir Alfred Mond, First Commissioner of Works, has stated in the House of Commons that the scheme was prepared entirely in Sir Frank Baines's time and on his own initiative. The scheme had never been put before the Cabinet, and he had never contemplated submitting it to the Cabinet. He had allowed the designs to be exhibited in the tea room of the House in response to the wishes of members. No memorial could be erected out of public funds without first receiving the sanction of Parliament.

A.A. Annual Prize Distribution

As briefly reported in our last issue, on Friday, July 16, Sir Aston Webb, K.C.V.O., C.B., P.R.A., distributed the prizes and certificates to students of the Architectural Association. These were as follows:—

Public School Entrance Scholarship (value 63 guineas).—Mr. A. M. Allen (Bootham School, York).

Open Entrance Scholarship (value 63 guineas).—Mr. L. R. Hiscock.

First Year.—Scholarship for one year in Second Year Course (value 63 guineas).—Mr. S. C. Kirby.

1st Prize, "Howard Colls" Travelling Studentship (value 15 guineas).—Mr. L. J. Bathurst.

2nd Prize, books value 3 guineas each.—Mr. J. S. Broadbent and Mr. F. S. Read.

General Progress, books value 2 guineas.—Mr. R. J. Troup.

Second Year.—Scholarships for one year in Third Year Course. (value 60 guineas).—Mr. D. Petrovitch.

1st Prize, "A. A." Travelling Studentship (value 25 guineas).—Mr. J. C. Shepherd.

2nd Prize, books value 7 guineas.—Mr. K. D. P. Murray.

3rd Prize, books value 3 guineas.—Mr. C. S. White.

General Progress.—Books value 3 guineas.—Mr. J. E. Sterrett.

Third Year.—1st Prize.—"Henry Florence" Travelling Studentship (value £50).—Miss E. G. Cooke.

2nd Prize, scholarship to fourth year (value 60 guineas).—Mr. W. Percik.

3rd Prize, books to value of 7½ guineas each.—Mr. A. S. Whitburn and Miss W. Ryle.

"Henry Jarvis" Scholarship (value £40).—Mr. S. G. Bulstrode.

"Alex Stanhope Forbes" Prize.—Not awarded.

Fourth Year.—1st Prize, books value 10 guineas.—Mr. B. George.

2nd Prize, books value five guineas.—Mr. H. L. Curtis.

3rd Prize, books value 2 guineas each.—Mr. J. H. White and Mr. P. Hardy.

Essay Prize—Not awarded.

"Henry Saxon Snell" Scholarship (value £50).—Mr. James Burford.

Third Year Certificates.—Miss E. G. Cooke, Miss E. K. W. Hughes, Miss W. Ryle, Miss Graves, and Messrs. S. G. Bulstrode, H. Collins, W. A. Devereaux, P. Dangerfield, S. G. Garrett, W. A. Golding, G. A. Gale, P. S. Hudson, A. A N. Haywood, C. S. Marley, H. E. Mills R. H. Maddock, W. Percik, F. A. Mallard A. S. Whitburn.

The drawings will remain on exhibition at the A.A. until July 30.

Weekly Housing Report

New housing schemes submitted to the Ministry during the week ended July 1 numbered seventy-one, bringing the tota number of schemes submitted to 10,731 comprising about 72,000 acres. Th schemes approved now number 7,229, an comprise about 52,000 acres.

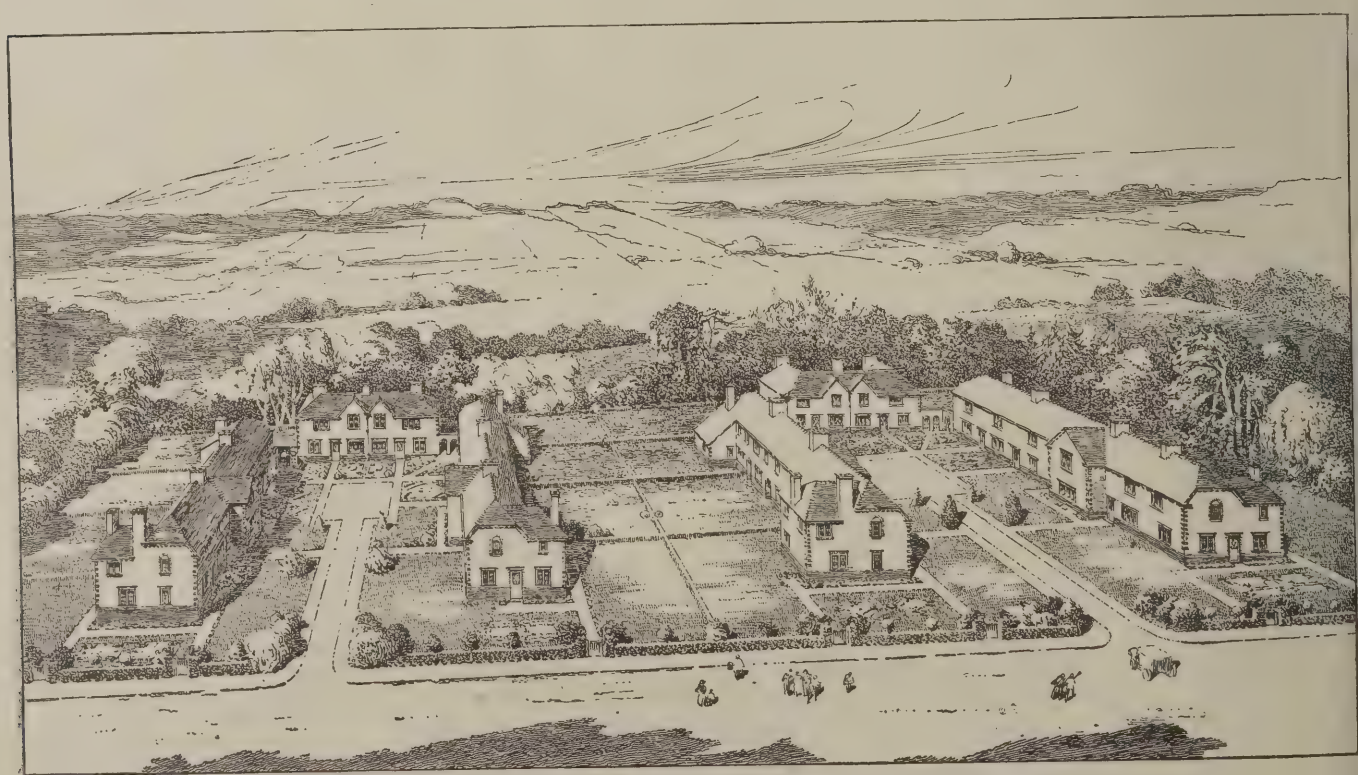
Forty-five lay-out schemes were sub mitted and forty-seven approved durin the week, bringing the total number o lay-outs submitted to 5,317, and the num ber approved to 4,713.

House plans, representing 2,077 house were submitted, and plans for 2,38 houses approved. The total number o houses represented in all the plans no submitted is 235,643, and in the plan approved 221,778.

During the week tenders were sub mitted for 3,926 houses. Tenders fo 2,584 were approved, bringing the tota number of houses in tenders submitted t 147,216, and in tenders approved t 128,812. Contracts have been signed fo 74,517 houses.

At the end of June, 3,622 houses ha been completed with the exception, i some cases, of painting. Building o 23,376 other houses had commenced, o which 6,763 were roof high. Flats num bering 275 have been provided by th conversion of houses in London.

The shortage of labour grows mo acute. For every fifteen skilled workme now employed on housing schemes, wo is available for twelve more. The total o skilled men employed is 15,100, an 12,192 more are required. No fewer tha 7,101 bricklayers are needed.



HOUSING SCHEME FOR THE SELLY OAK ROAD SITE, BIRMINGHAM: BIRD'S-EYE VIEW.
INGALL, BRIDGWATER, AND PORTER, ARCHITECTS.

The competition drawings for this Scheme were published in our issue for January 28, 1920, when a full description of the work was also given.

HOW HY-RIB HAS HELPED HOUSING.

Pair of HY-RIB steel-framed concrete houses. Complete in six weeks.

The housing situation is a menace to the nation. Houses *must* be built, thousands of them—and AT ONCE.

The people don't want speeches. They want Houses.

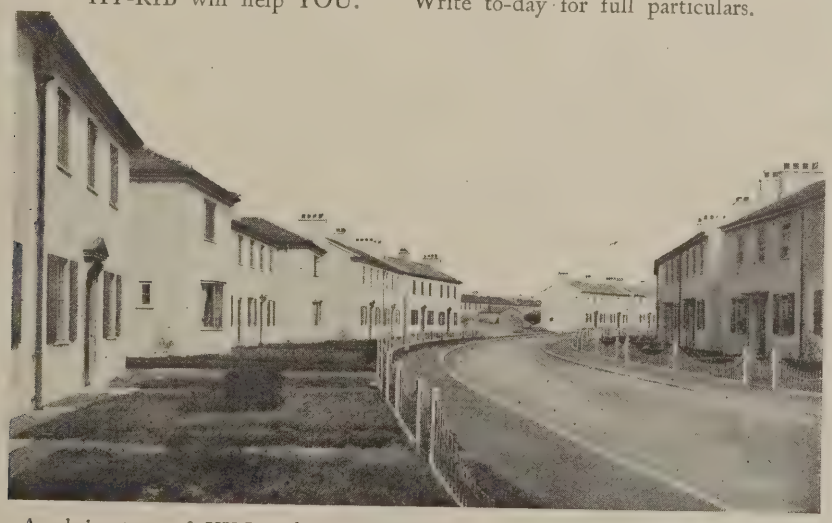
Can they get them? - Yes.
Are they getting them? - Yes.
Then where? (See below.)

A first list of official housing schemes on the "Dorlonco" system wherein "Hy-Rib" is used for construction of walls, floors, roofs, ceilings, etc. :—

BIRMINGHAM.	MIDDLESBROUGH.	LIVERPOOL.
DONCASTER.	WARRINGTON.	MALTBY.
GLOUCESTER.	DERI.	ROSSINGTON.
LEYLAND.	HATFIELD.	CHISLET.
DURHAM.	ASHINGTON.	PONTELAND.
WHARNCLIFFE.	STURRY.	SANDAL.
ACTON BRIDGE.	WALKERGATE.	PENKETH.
BOLTON.	EARSDEN.	KIRK SANDELL.
DORMANSTOWN, REDCAR.	ROTHERHAM.	CASTLEFORD.
GRIMSBY.	WEST BROMWICH.	CHESTERFIELD.

Building is in progress in all these schemes. Many houses are already completed. Hy-Rib house construction is very speedy, and is approved by the Government.

HY-RIB will help YOU. Write to-day for full particulars.



A whole street of HY-RIB houses, many already occupied. Dormanstown Housing Scheme. Architects: Messrs. Adshead, Ramsey & Patrick Abercrombie.

THE TRUSSED CONCRETE STEEL CO., LTD.,

2, Truscon House, Cranley Gardens, South Kensington, S.W.7.

INTRODUCING

FENESTRA STANDARD FACTORY SASHES

Fenestra Steel Sashes in Standard Sizes are the universal specification in present day American Factory construction.

These same Standard Sizes with necessary modifications for English use will now be made and stocked at our new Witham works – the largest factory in Europe devoted exclusively to the manufacture of steel sashes.

Standard Sizes will save at least 25% in the cost of metal windows. The original Fenestra construction is retained and there is no deviation from the Crittall Standard of Quality.

We have discontinued manufacture of purpose made sash and the Standard Sizes will be ready for delivery in September

Write for blueprint K258 which tells you all about Standard Sizes

CRITTALL BRAINTREE

Germany and Skyscrapers*

UP to the present time, every attempt to remedy the ever-increasing house shortage has been crowned ith only a moderate amount of success, r every boldly-conceived measure has in e end been wrecked by the extremely gh wages and high cost of building mate- als. Thus it comes about that the hous- g schemes are far less forward than one ought they would be immediately after e end of the war. Whilst the shortage small houses in Germany amounted to most 200,000 yearly, of these only 30,000 40,000 were built each year, and, fur- ermore, only 30,000 to 40,000 were com- enced. Meanwhile, conditions in the ilding market have not improved, and en this year it is hardly possible to count on the erection of a larger number of all houses, with the exception of coal- ners' dwellings, which, of course, are anced out of the mining capital under "Miners' Housing Act" (Bergarbeiter- mstätten-gesetsz).

As a consequence of this slackening off general building activity, certain com- nities in some of the large towns are ing measures which must be designated grave encroachments on the personal erty and freedom of the citizen; the nicipal Board in Breslau, for instance, lmost on the point of introducing com- sory billeting.

After reading the above it is easy to derstand that at the present time no hod will be overlooked; that numerous ds are actively searching for remedies ways out of this terrible shortage. So omes about that recently in Germany dea has been taken up that has already n made use of in America for a long e. Even before the war the "Berliner rgenpost" had published an open letter he Lord Mayor, Wermuth, in which it gested the better use of the "third ension" as far as building was con- ed as a solution of the problem of over- rding in the city of Berlin. Several -known architects like Peter Behrens, no Möhring, and Theodor Goecke, the sman Dernburg, and representatives ommerce like Rathenau and Titez had wn themselves into this idea with the test enthusiasm. If at that time the f need was the building of new business administrative premises on sites dy becoming scarce in Berlin, the her of Ideas," it is still more necessary ke up this idea again with the express ose of utilising these sites for the erec- of more dwellings. Government itect Sasz, in the April number of the tschrift fur das Wohnungswesen" rnal of Housing), suggests the erec- of many-storied business houses, as vs:

ssume that with a fixed sum allowed e building of small houses the amount or area in all the houses built will be oo square metres, then one can fur- assume that with the same sum of y spent in the erection of a many- d business house, one can get at a floor area of 135,000 square metres, y this means an area of some 260,000 e metres will be left free for the erec- of dwelling-houses. In this indirect he production of houses in the large can be considerably enhanced."

As Sasz admits that by this increasing of the number of stories a possible reduction in prices is limited, and that there is a possibility indeed that the effect may be the opposite, it is interesting to see two designs for business premises prepared from the same point of view by Berg, the city architect of Breslau, for the chief banking corporation, and containing from ten to twenty storeys.

Let the reasons for building these high business houses be ever so excellent, both from a town-planning and space-saving point of view, yet it is necessary in the present time of shortage of building materials that these proposals to build "skyscrapers" be vigorously opposed. Nothing could be more opposed to culture than the carrying out of such a project, which is a contradiction of the spirit of our time, which aims at bringing people out of the narrow walls of the large towns and out of the tenement houses in order to settle them in healthy dwellings on their own land on the outskirts of the town. Moreover, it is a fallacy to assume that by this concentration of business and administrative premises, actual space for the erection of small houses—and this is indeed the reason—will be saved. Nor is the need met by the building of large apartment houses; for the surrounding of these with small houses, as is known by experience, and in so far as it is possible, swallows huge sums of money.

Tenement or Separate House?

It must be confessed that ideal considerations like a separate house (Eigenheimgedanke) for each family must step into the background in a time of direst need like the present, when another means of saving the situation is possible, and one which brings us much more quickly and surely to the goal. But there comes the question, "Does this idea fulfil all its promises?" Even before the war it was found that the building of tenement houses over and above a certain number of stories was uneconomical. (Serini reckoned this to be from three storeys and upwards; now it should be rather from two storeys and upwards.) To-day the prices of the materials required for such buildings, such as cement and iron, are almost prohibitive. (See the table.) If one desired to build a twenty-storey building on such unsatisfactory building ground as that to be found on the banks of the Oder one would find that the cost of necessary foundations alone would serve to bring the project to an end.

The following remarks refer to some reflections made by Cornelius Gurlith in the February, 1916, number of the "Deutsche Bauzeitung." After some very interesting reflections on the housing conditions in New York. Gurlitt mentions that the erection of high buildings in the business centres has not brought about in the slightest degree the expected relief to the surrounding district; indeed, on the contrary, even here the overcrowding of building land increases continually. The tramways are too dear for the man of small means; he must perforce live in the neighbourhood of his work, and so the narrow streets around the skyscrapers become overpopulated. On the other hand, it is of value to compare London. There every effort—other than resorting to skyscrapers—has been made to overcome the difficulties caused by the special conditions of the city and the accumulation of traffic, namely, by extending the city by means of suitably laid-out suburbs. Whilst it is recognised in New York that the municipality made a great mistake in allowing the erection of skyscrapers whilst everyone was caught with the desire of possessing the most colossal buildings in the world, in London they turned over the real task of solution to highly developed technical experts, who tried if possible to remove all traffic congestion rather than increase it.

Decentralisation Inventions

These conditions show whither the overdone development of a city leads. The tendency even with our own large cities goes in the same direction—to create business centres, and to crowd out dwellings, replacing them with business premises. Even with us it is thought that a benefit is being conferred on business life if laws which stand in the way of high building, and consequently the thorough and economical using up of building ground, are revoked in order that American conditions as such may be introduced into this country—conditions which if once introduced are likely to stay. In the journals and technical literature we frequently meet with remarks which hold forth on American building schemes which are said to be proofs of their boldly conceived technical plans and ideas and therefore to be imitated. But before one follows such plans, the consequences should be carefully studied. One should recognise that the decentralisation inventions—amongst these I have in mind the telephone, well-organised as a publicly-owned and properly and economically controlled service; the division of the city into correspondingly wide administrative districts—all these deserve greater attention than the skyscrapers of America—which have been found in the long run to increase the present social evils.

There is at the present time only one practical and feasible way of properly solving the housing question, keeping in mind at the same time the well-being of the people, and that is a tax based on the rental of every kind of building, the tax so obtained being used in order to promote the active building of new houses of the smaller class. By this means the prostrated building industry would once more be helped on to its feet.

TABLE OF PRICES—1914-1920.

Material.	1914. Marks.		1920. (May 1). Marks.
1,000 roofing tiles	30-33	...	500
1,000 bricks	20-24	...	220
1 cubic metre lime	12	...	30-90
1 load (3 cwt.) cement	7.50	...	100
1 cubic metre timber (selected)	70	...	1500
1 sq. metre window glass	3.50	...	70
100 kg. T.-iron	17-18	...	500
1 door lock	2.60	...	25
1 sq. metre wire gauze	0.60	...	6
1 cast-iron rain-water head	6.50	...	100
1 m. 20 mm. strong lead pipe	3	...	95
	On April 20	...	137
1 m. ¾ iron gas pipe	0.19	...	9.80
1 washing copper	12.50	...	150
1 metre lath fencing, 1 metre high	4.50	...	60
Labour—Bricklayer (1 hour)	0.53	...	5.40

* article, a translation from the German of Ernst as been kindly provided by Mr. J. A. Metcalf.

The Week's News

(Concluded from page 88).

Sefton Housing Scheme.

The Sefton R.D.C. has decided to borrow £40,000 for the purpose of carrying on their housing scheme.

Church a "Luxury."

Northwood (Middlesex) Council has prohibited the erection of a church on the ground that it is a "luxury" building.

Churches as Dwellings.

Rhondda miners are asking for the opening of churches and chapels in the Valley as dwellings for people who are unable to obtain houses.

Palace Theatre Changes Hands.

The Palace Theatre, London, has been sold for £345,000 to Mr. Solomon Levy, who intends to convert it into a kinema palace.

L.C.C. and War Memorial.

The L.C.C. have decided to ask the Government to consult the Council before committing itself to a war memorial in London.

Gloucester War Memorial Scheme.

The War Memorial Committee have decided that the memorial shall take the form of an archway, to be erected in the public park.

£1,000 Cottages.

Hayfield R.D.C. have decided to borrow £22,000 to build twenty-two cottages under their housing scheme. New Mills Urban Council are borrowing £25,000 to build twenty-four cottages.

Novel New York Theatre.

In New York a scheme is afloat to erect two theatres, one above the other. The lower theatre will have a seating capacity of 1,400 and the upper 1,000. Mr. A. L. Erlanger is undertaking the project.

Cost of Loftier Rooms.

To the original estimate of £274,500 for the L.C.C.'s scheme for developing the Roehampton estate it is now proposed to add £62,500. Increase of the height of rooms from 8 ft. to 8 ft. 6 in. will cost £21,600.

Luton's Housing Progress.

Luton R.D.C. have been informed that they are getting houses up and occupied more quickly and cheaply than any other authority. Six schemes are already in hand, and seven more will be started in the next few weeks.

Council's Bank Overdraft.

Itchen U.D.C. have incurred an overdraft of nearly £5,000 in connection with their housing scheme, and blame the Ministry of Health, which, they state, promised them financial assistance, and has never kept its promise.

Hackney War Memorial.

The Hackney Peace Celebration War Memorial Sub-Committee invites competitive designs for a stone or marble monumental memorial to be erected at a cost not exceeding £500. A premium of twenty guineas will be awarded to the person whose design is selected.

New Pictures at the National Gallery.

Three new pictures have just been put on view at Trafalgar Square. Two are loans from the collection of Mrs. F. A. Beer, namely, the full-length version of "Orpheus and Eurydice," by G. F. Watts (Room XXII.), and a little picture, "The Faggot Gatherer," by J. F. Millet (Room XXI). The third is a lively and characteristic example of George Stubbs, R.A., representing a "Lady and Gentleman in a Curricle" (Room XXIV.). This picture has been presented to the nation by Miss H. S. Hope.

New Town Hall for Islington.

Islington B.C. have decided to purchase a site in Tyndale Place, Upper Street, for the erection of a new Town Hall, the accommodation in the present building having been for some time quite inadequate. The cost of the site is approximately £30,000, and the area about 136,000 sq. ft.

Labour Problem in Housing.

Dr. Addison, speaking at Bishopsteignton, Devon, said that housing was the greatest enterprise any nation had ever undertaken. There were two big difficulties in this great scheme at the present time, he continued, money and labour. Unless people assisted they had no right to complain. It was the first commercial duty of the nation to provide houses. They must have more labour if they were to build houses, and they would not attract men into the building trade unless they made it an industry worth entering.

Research Association for Cutlery.

The secretary of the Department of Scientific and Industrial Research reports that the Research Association for the Cutlery Industry has been approved by the Department as complying with the conditions laid down in the Government scheme for the encouragement of industrial research. As the association is to be registered as a non-profit-sharing company the promoters have applied to the Board of Trade for the issue of a licence under Section 20 of the Companies (Consolidation) Act of 1908. The secretary of the committee engaged in the establishment of this association is Mr. W. H. Bolton, P.O. Box 49, Sheffield.

Scottish Building Trade Dispute.

As a result of a conference at Glasgow, under the chairmanship of Sir David Shackleton, on behalf of the Ministry of Labour, a settlement has been reached in the dispute in the Scottish building trade. There had been a strike of joiners during a period of nine weeks, and a dispute also existed with regard to the other trades. The terms of settlement were embodied in an agreement made between the Scottish Building Trade Employers' Federation, the Building Trades of Scotland Operatives' Wages and Conditions of Service Board (representing building trade operatives other than carpenters and joiners), and the Amalgamated Society of Carpenters, Cabinetmakers, and Joiners, and they provide: (1) That the rates of wages in operation in accordance with the awards of the Industrial Court dated March 30, 1920, shall have added to them 4½d. per hour, with a maximum rate of 2s. 4d. per hour for skilled workmen and 1s. 11¼d. for labourers, the rates to come into force on Friday, July 9, and to remain in force until November 30, 1920. (2) That on August 5 a joint meeting be held of representatives of the parties to the agreement for the purpose of considering a levelling up of the wages of the various sections and the grading of districts. (3) Work to be resumed on July 12. (4) There is to be no victimisation on either side.

Builders' Benevolent Institution

The seventy-third annual general me ing of the Builders' Benevolent Instituti was held at 48, Bedford Square, Londo W.C.1, on Tuesday, July 20. The Pre dent, Mr. George R. Holland, occupi the chair.

The following officers were elected the ensuing year: President, Mr. Wal Lawrence, F.I.O.B.; treasurer, Frank May, J.P., F.I.O.B.; hon. au tors, Mr. John T. Bolding and Mr. H. Ward, F.C.A.

The following members of the co mittee retired by "rota" and were elected: Sir James Carmichael, K.B. J.P., F.I.O.B.; Mr. W. Downs, F.I.O. Mr. E. J. Hill, F.I.O.B.; Mr. F. Hig F.I.O.B.; Major R. J. Holliday, M. F.I.O.B.; Mr. F. M. May, F.I.O.B.; M E. S. Rider, F.I.O.B.; Mr. F. Shinglet M.V.O., F.I.O.B.; Mr. T. Stirling; C G. Haward Trollope, D.L., V. F.I.O.B.; and Mr. H. S. Ward, F.C.A

Mr. G. J. Aldous and Mr. F. A. Min were elected members of the committee

The annual report, which was recei and adopted, is as follows: The co mittee of management begs to sub their seventy-third annual report, a tender sincere thanks to Lieut.-Colo G. R. Holland for the valuable services has rendered to this institution during period in which he has discharged duties of president, and they take t opportunity of expressing their gratit to the subscribers and donors who sponded to the appeal of the president

The committee have carefully end voured wisely and generously to disbu the funds of the institution in the direct for which they were contributed, and this connection are gratified to be able report that (owing to the recent ame ments in the Old Age Pension Act, which the amount of private income wh persons may have and be eligible for State pension was increased) it has b found possible to raise the amounts the pensions granted by this instituti and they, after due consideration, h advanced the same approximately 25 cent.

Two women have been added to pensioners' list during the past ye namely, Mrs. C. Snelling and Mrs. Woods.

There are now fourteen men and th women receiving the benefits of this in tution.

The committee are pleased to re that Mr. Walter Lawrence has kin accepted the presidency for the com year, and trust that he will be suppo by the presence of a large number of s scribers and donors at the annual din which it is proposed to hold in Novem next.

A Correction

In the course of a description of lifts supplied and fitted at Hotel Victo on page 56 of our issue of July 14, stated that the head office and works Messrs. Waygood-Otis, Ltd., are at mouth Road, London, S.E.1. This, are informed, is incorrect. The office the company are now situated at 5 Fetter Lane, E.C., and only the w remain at Falmouth Road.

RUBEROID ROOFING

THE WEST PIER PAVILION, BRIGHTON,

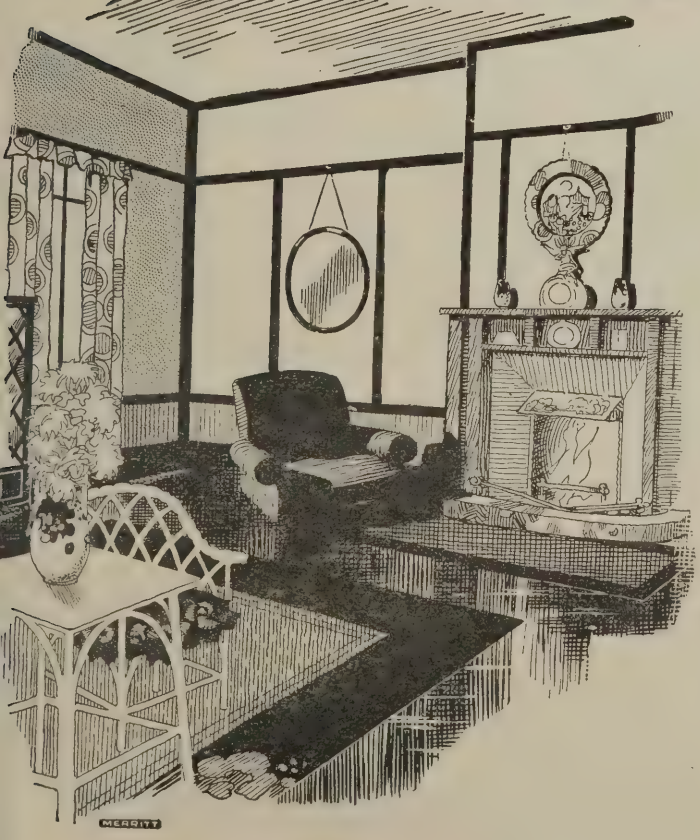
entirely roofed with Ruberoid in 1916, forms an excellent example of the efficiency of Ruberoid for buildings in exposed positions, or subjected to exceptional vibration. It is scarcely possible to test a roofing under more drastic conditions. After standing the heat of four summers and the storms of four winters, the roof is as sound as when first fixed, and for many years to come can be relied upon to remain proof against all weather. Ruberoid is unaffected by sea-air, spray, acids or alkalies. It can be used on flat, pitched or curved roofs, and laid on boards or concrete.

Our Catalogue contains illustrations of some of the many types of buildings roofed with Ruberoid during the past 29 years. It will be sent free with samples on request.

THE RUBEROID CO., Ltd., 1, Waterloo House, 81-83, Knightrider St., E.C.4

Branches: Newcastle-on-Tyne, Birmingham. *Branches: Leith, Dublin.*

Venesta Ply-Panels



For quick, dry, and reliable construction there is no form of wall and ceiling decoration to compare with Venesta Ply-Panels, and the result when completed is far superior to anything possible with lath and plaster walls.

Venesta Ply-Panels are comprised only of selected and flawless "plys," waterproof and unshrinkable, and they will last as long as the house in which they are fixed.

They are non-absorbent, sound resisting and fire resisting, and their delightful surface is admirable for taking enamel, distemper or polish without any preliminary preparation.

The panels are quite easy to fix either to brickwork or over old plaster walls, and the joints when covered with the strips or moulding form the panel design.

Venesta Period Panelling

Where a more elaborate decoration is desired such as Dining Rooms, Billiard Rooms, Libraries, and Board Rooms, etc., Venesta Period Panelling is the ideal material.

It gives an air of distinction wherever it is installed and its value increases with age.

We design, supply and fix to suit any Room in Tudor, Jacobean, or other period panelling in various woods.

Write for illustrated Booklet of Ply-Panels, Period Panelling and Parquet Flooring.

Venesta Ltd
Plywood Manufacturers
1. Great Tower Street, London, E.C.3

CONTENTS.

Edited by PROFESSOR A. E. RICHARDSON, F.R.I.B.A.

Notes and Comments: The Surrey Side; The Lincoln Statue; Augustus Saint-Gaudens, 115; A Point of Law; Wages and Employment; Crystal Palace Redivivus; Why a National Memorial? 116

The Care of Our National Heirlooms. By Major H. Barnes, M.P., F.R.I.B.A. 117

The Week's News 118, 140

The Lincoln Statues 119

National Scottish Memorial to King Edward VII., Holyrood Palace ... 123

Architectural Causerie: Thomas Bewick. By Aero 124

Acoustic Properties of Partitions: Some American Experiments ... 127

Messrs. Parsons' Colour Scheme Competition 128

The Rent Restriction Act 128

Housing Contract for London Guild 128

Construction II.: A Motor Garage .. 133

The Bristol Housing Scheme ... 134

Correspondence 137

Brighton Housing Conference ... 138

National Federation Meeting at Newcastle 138

Housing Standards 139

Competition News 139

Law Report 139

Current Prices of Materials xvii

Complete List of Contracts Open xx, xxii

ILLUSTRATIONS:

R. Norman Shaw, R.A. 113

Monuments I.—The Lincoln Statue, Chicago. Augustus Saint-Gaudens, Sculptor ... 114

The Two Statues of Abraham Lincoln Now in this Country 119

Architectural Setting of the Lincoln Statue, Chicago. By the Late Stanford White 120

Details of Craftsmanship I.—Wrought-iron Gates of National Scottish Memorial to King Edward VII., Holyrood Palace, Edinburgh. George Washington Browne, Architect. J. Starkie Gardner, Craftsman 121, 123

War Memorial Tablet in Entrance Hall of the Public Trustee Office, Kingsway, London. Designed by F. Arnold Wright, R.B.S. ...

Details of Craftsmanship II.—Wrought-iron Gates of National Scottish Memorial to King Edward VII., Holyrood Palace, Edinburgh. George Washington Browne, Architect. J. Starkie Gardner, Craftsman ... ...

Architects' Working Drawings II.—Motor Garage and Show Room, Soho Road, Handsworth, Birmingham. Details of Belfast Roof Principal. Hurley Robinson, F.R.I.B.A., Architect 130, 131

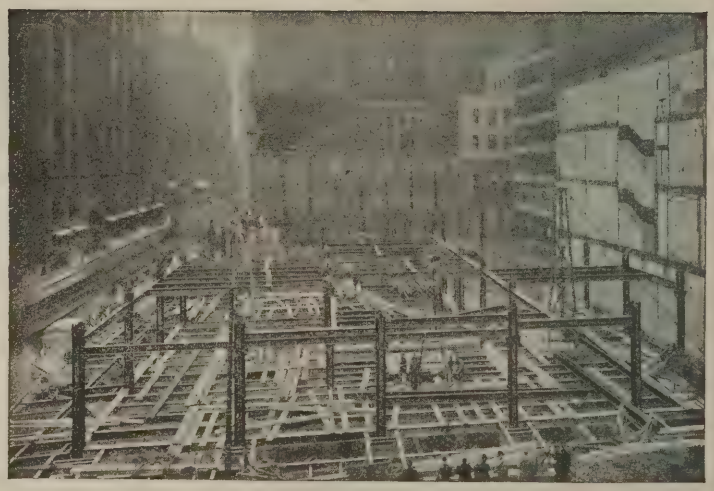
Bristol Housing Scheme. Typical Plans ... ...

Modern Domestic Architecture 13.—Bristol Housing Scheme. Three Typical Elevations ...

DAWNAY DEFINITIONS.—1.

RECONSTRUCTION.

RECONSTRUCTION is simply the building-up again of trade, bearing in mind the lessons of the last four years. Energy and a firm purpose are the essentials. These principles have been applied to our business—hence this announcement asking for your enquiries.



ARCHIBALD D. DAWNAY & SONS, Ltd.,

Telephones: Battersea 1094 (3 lines). **Steelworks Road, Battersea, S.W.11.** Telegrams: "Dawnay, Battsquare, London."

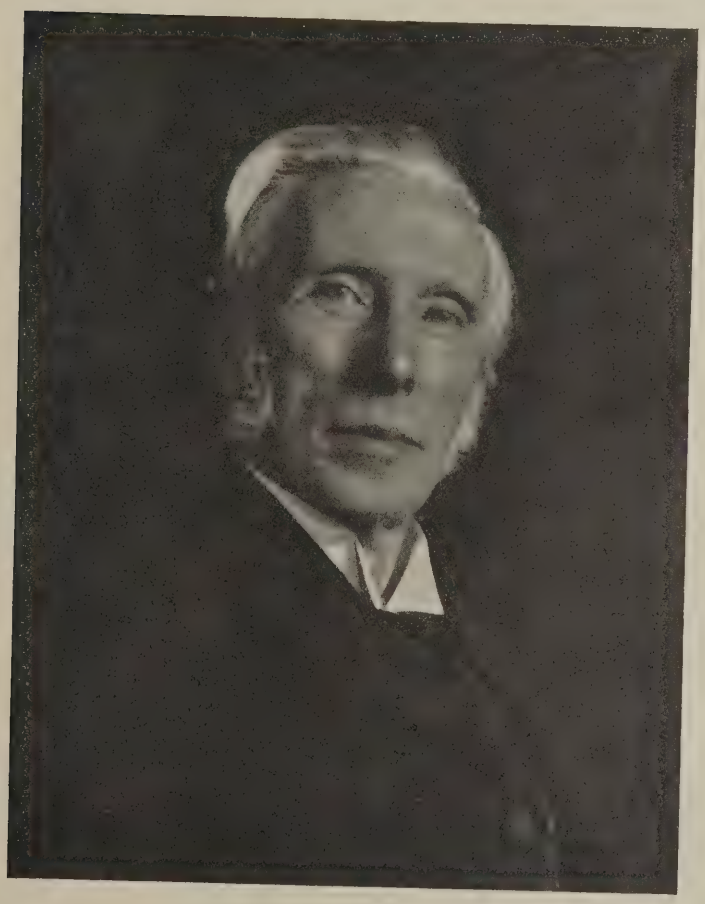
Telephone: Cardiff 2557. **And at East Moors, Cardiff.** Telegrams: "Dawnay, Cardiff."

Wednesday, August 4, 1920

Volume LII. No. 1335

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



NORMAN SHAW

Norman Shaw (born 1831, died 1912) was unquestionably the most dominant architectural personality of the latter half of the nineteenth century. Living through the period of the Gothic Revival, he survived to witness its ultimate downfall, and, late in life, by sheer strength of character, himself achieved something of the monumental manner. Distinguished mainly for a great quantity of domestic work of very individual character, he was also responsible for many great public and other buildings, including the New Scotland Yard, the Alliance Building in St. James's Street, and the Piccadilly Hotel.

27-29 Tothill Street, Westminster, S.W.1.

Monuments. 1.—The Lincoln Statue, Chicago

Augustus Saint-Gaudens, Sculptor

The Lincoln Statue lately unveiled in Parliament Square is a replica of the one in Lincoln Park, Chicago, shown above. Unlike the London statue, the original, as will be seen, is provided with a fine architectural setting—the work of the late Stanford White, with whom Saint-Gaudens frequently collaborated.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.
Wednesday, August 4, 1920 Volume LII. No. 1335

Notes and Comments

The Surrey Side

WHAT are the London County Council doing about the south side of the Thames—particularly that part of it which lies between Westminster and Blackfriars bridges? We ask this question because, if something constructive and statesmanlike is not soon done, the opportunity is likely to be lost. Already we see indications of rebuilding on the existing river frontage, and if these operations are allowed to be carried out, what becomes of all our dreams of a magnificent Surrey side? For years past civic visionaries have pointed out the necessity for some all-embracing scheme of reconstruction on the south side of the river; others have gone farther and prepared plans showing what might be done to make it a worthy counterpart of its neighbour opposite. What has been done to materialise these practical visions? Nothing, so far as we are aware, unless the planting of the Council's giant Hall at the western end of the sector may be regarded as a beginning, as, indeed, in one sense it is; what is lacking, however, is a constructive scheme for the whole area. Londoners will not lightly forgive the Council if they wilfully disregard this opportunity of carrying through the greatest metropolitan improvement scheme since the building of the Victoria Embankment. While the present squalid and depressing water front is allowed to exist, so long must the capital of the Empire remain only half a city. Nothing is finer in the whole field of civic planning than a great waterway edged by wide embankment roadways with fine buildings. We have only to think of Paris, with its comparatively narrow stream and embankment roadways, to realise how splendid London might become. Civic foresight, that quality the lack of which has been responsible for so much gross blundering in the past, is vitally necessary if the future development of London on lines commensurate with its greatness is to be assured. The southern waterfront cannot be allowed to remain as it is. Some profess to find picturesque beauty in its squalid ugliness. Whistler penned its squat and depressing outlines in a famous etching. But the day of false sentimentality is gone. We know this river frontage to be nothing but a collection of slimy wharves, filthy warehouses, and insanitary hobbish shoots. Let it all be swept away—But let the County Council be ready with a scheme for its reconstruction in a manner befitting the capital city of the Empire.

The Lincoln Statue

The unveiling of the statue to Abraham Lincoln in Parliament Square recalls the controversy that arose in the United States when it was first proposed to send a statue to this country. The two finest effigies of Lincoln are admittedly by Saint-Gaudens and Barnard—Chicago and Cincinnati respectively. Which of these should be sent to represent in England the greatest figure that America has produced? There was a sharp cleavage of opinion. Ultimately a compromise was effected by the decision to send replicas of both statues; and Barnard's now stands in Manchester, while Saint-Gaudens's graces Parliament Square. In view of the interest which has been aroused by the recent unveiling, we reprint in this issue illustrations of both statues. From an impartial study, it must be at once admitted that both have peculiar merits of their own. Saint-Gaudens has given us a fine dignified Lincoln, in which all the great qualities of the man seem to be synthesised and expressed. But the physical likeness is not striking. Barnard, however, has gone to the extreme of realism (it is said that he modelled the face from a death mask), and produced a resemblance which is no doubt far more lifelike. This is the homely Lincoln of the West; gaunt and ungainly to the point of caricature. The frock-coat would be better suited to a much stouter man, for it is made to hang in loose, baggy folds. Hands are unduly big and bony, and feet are unnaturally large. Barnard, it would seem, in attempting to portray Lincoln as he really was, has exaggerated his physical peculiarities. For all this, however, he has given us a vivid portrait. Whatever may be the merits or defects of the rival statues, England is content in being the richer by two great works of art, both commemorating very finely the great and beloved American, whose memory is no less deeply revered here than it is in the United States.

Augustus Saint-Gaudens

Augustus Saint-Gaudens, the sculptor of the Lincoln statue, was one of those strong personalities that now and again arise, and, by sheer power of example, change the whole tenor of an art. It is recorded of him that he was a quiet, self-contained man, who seldom spoke and never wrote. He accomplished wonders by the very weight and momentum of his earnest personality. Before his advent American scuplture had become prosaic to a degree. The old-fashioned "Italianate" school predominated, and touch had been lost with the trend of national life. Then uprose the Parisian-trained sculptors, with their Gallic vivacity of outlook, and speedily the Italianate school began to decline. Out of the general transformation, however, arose the personality of Saint-Gaudens to supply a clarifying and steadying influence. As a result, the modern American school of sculpture has gained a nationality of character and expression, the consummation of which might otherwise have been long delayed. If the influence of Paris is visible to-day, it is only on the technical side. In spirit and inspiration the work is essentially American. Augustus Saint-Gaudens was born in Dublin, in 1848, of a French father and an Irish mother. The family emigrated to New York while Augustus was still an infant. Growing up, the boy displayed a keen interest in art, and at the age of thirteen was apprenticed to a cameo-cutter. Later he studied at the Cooper Union, and spent two years in the life classes of the National

Academy of Design. At the age of twenty the future sculptor was already a trained artist. A course of study in Paris followed, first at the "Petite Ecole," and then at the Ecole des Beaux-Arts, and then three years in Rome. Returning to New York in 1874, Saint-Gaudens carried out a number of small commissions that, as Mr. Lorado Taft records in his scholarly work on American sculpture, promised well for the future. But it was not until 1881 that Saint-Gaudens became widely known. With the appearance in that year of his "Admiral Farragut," he at once sprang into fame, becoming a public character and taking his place at the head of American sculpture. Both in the Farragut and Lincoln statues Saint-Gaudens collaborated with the late Stanford White, to whom are due the admirable architectural settings and features of these monuments. Many and magnificent are the works of Saint-Gaudens; but imperishable fame would be his had he wrought nothing else than the Lincoln statue, of which a replica now stands in Parliament Square.

A Point of Law

In this issue we report a case in which a Manchester civil and mechanical engineer was summoned, on the complaint of a well-known firm of Manchester architects, for an infringement of the Prevention of Corruption Act, 1906. The defendant and his firm, agents for a concrete block-making machine, addressed a letter to the architects in which they said: "We should only be too pleased to cover you with a commission on business resulting from a good word from your good selves, as we are aware you have several large schemes in hand." The letter is innocent enough in itself, and is of the kind that is received by thousands of ordinary business men every day of the week. Yet the fact of its being addressed to professional men in their capacity of agents for a third party is construed as an illegal attempt to destroy the impartiality of their judgment, and becomes a technical breach of the law. It is a very nice distinction, and one that is not generally appreciated. Let all be on their guard lest in their eagerness for business they fall unwittingly into the error that has ensnared the Manchester engineers.

Wages and Employment

It was not to be expected that the Government's proposal to introduce legislation guaranteeing wages and employment in the building trade would meet with the unqualified approval of the Federated employers. At the half-yearly meeting of the National Federation at Newcastle, a report of which appears on a later page, a resolution was adopted protesting against the proposal and pointing out the detrimental effect of any such legislation upon building work of all kinds. The Federation declare that if workmen are to receive a full week's pay, irrespective of work done, it will be impossible to prepare firm estimates for outdoor work; and there is likely to be an enormous increase in the cost of building generally. All this, we fear, is only too true. Master builders would be the last to maintain that the conditions of employment in the building trade are ideal. Admittedly they are far from good; and it is a very great hardship that willing operatives should suffer loss of work and pay through no fault of their own. But master builders themselves are not free agents, nor are they philanthropists; they cannot control the weather, nor can they afford to make good the operatives' losses out of their own pockets. The whole question of employment is so beset with difficulties that the Government would be unwise to press on with the proposed legislation without conferring with the Federated builders, who, we are sure, will not oppose any measure of reform out of mere perversity or self-interest. The enlightened master builder knows very well that his own interests are closely bound up with those of the operative; you cannot get good service from a discontented worker. With goodwill on both sides it should b possible to improve the conditions and rewards o labour; but labour must not expect rewards withou service. The policy of ca' canny must be abandoned i the building industry is to flourish. On the genera situation as between masters and men we commend t the attention of our readers the letter from Mr. Thos Foster, which appears on a later page in this issue.

Crystal Palace Redivivus

The gigantic task of puttings things right and present ing an attractive programme at the Crystal Palace i now, we learn, nearly completed. The history of th Palace is fairly well known. The peculiar mingling o rhapsody and statistics with which it was the fashion t write about the place betrays an oddly humorous twist i Mid-Victorian mentality. Almost anyone who put pen t paper in the early days of "Paxton's Wondrous Dome used to mention that it realised the dreams of poesy, an comprehended so many thousands of tons of buildin material and glass, being also equipped with so man miles of hot-air pipes to make things comfortable in th chilly weather. Everyone, too, agreed there wa nothing like it in the world, and never would be. I was believed that the turnstiles would continually click click a modest song of praise to the march of mutua improvement societies and model mechanics with thei wives and children. But soon came picnics, promenad concerts, tight-rope dancing, performing dogs, with a the fun of the fair. Although established for quit different purposes, some such things were bound t come about in time. Though still largely hilarious, th Palace has in part returned to its original sedateness In addition to the exhibition of war impedimenta, it no has an Old Section, wherein are displayed all th many appliances in use for winning the oil from the eart in its crude state, and the products obtained from th refined crude oil. Here are represented all the larg companies engaged in the oil trade of this country. Ma the Palace flourish in its career of regained usefulness.

Why a National Memorial?

The recent "Pylon" controversy has raised th interesting question: "Do we need a National Wa Memorial?" The view has been put forward that th mighty dead are already enshrined in our hearts an need no other memorial, or, if they do, it is sufficientl supplied by the small local monuments that are bein set up in all parts of the country. To the first view w would make answer that the present generation will pa away, and with it that close personal memory of th dead; and, to the alternative, that though the loc memorial may satisfy local sentiment, it does no mo than that. Among all peoples in whom the sense o nationality is keen and strong there lives an underlyin instinct to commemorate the illustrious dead in some co porate fashion and for all time, and this desire, we think is entirely right. To erect a central memorial in th capital city of a great empire is to build a permane shrine whereat all may pay tribute, independently of cla or creed. Such a memorial is a corporate expression national and imperial remembrance, and stands to sho the greatness of that which was fought for. Such wa the custom of ancient Rome, and such has been th custom of imperial peoples ever since. Only by a gre and truly fine memorial can national sentiment be ad quately expressed — a memorial such as the Arc Triomphe in Paris, or the Victor Emmanuel Memorial Rome. These great monuments, immense in scale ar fine in expression, also give the keynote to the peopl that erected them. They serve a splendid purpose nob and well. Without doubt we must have a Nation Memorial. But let it be the subject of a great Imperi Competition, to be judged by the most compete assessors of our day. Only thus shall we get a memori worthy of so great an occasion.

The Care of our National Heirlooms

By MAJOR H. BARNES, M.P., F.R.I.B.A.

I HAVE just seen a photograph in an illustrated paper of a wonderful evergreen hedge in Wales, which is said to have been the life's work of its owner. Day after day, month after month, year ter year, he has planted and cut and trimmed it, till -day it is, perhaps, the most perfect specimen of piary in existence. Trifles make perfection, and perction is no trifle. It is not very material, the objects on which we employ ourselves, whether they be big small; what does matter is the zest and skill we put o our work. A few words by a poet written on a June ght in the light of a summer moon may last when the ngest speech of the greatest statesman has been forten. What counts is not so much matter as manner; t so much size as subject; and this evidence comes from ery quarter. It is true in literature, true in music, true architecture. The porchway of a village church will ract pilgrims who pass by the greatest structures of y life with absolute indifference. I wish the spirit of e Welsh topiarist could be translated into the care d culture of those heirlooms from the past which enrich, ought to enrich, the towns and cities of our country.

When I go to Manchester its chief treasure I find in the etham Hospital. By some miracle it has survived, rounded by the blackened piles which mark the dern growth of Manchester; it has retained its soul, d in a moment you may pass from to-day's indifferent- to beauty and charm—to their unconscious product, ich, coming from mediæval days, leaves us to wonder at manner of men there were then, and what strange ange has worked upon their posterity. I wonder what served Chetham College? Probably the fact that it d not lean for support upon the generosity of the neyed men of the last 100 years.

What makes the difference between the moneymaker England and in America? In America great makings m to lead to great spendings. There is something the magnificence of the merchant princes of the naissance about the American millionaire. When the es of Northern Italy and of Northern Europe were in ir prime, great wealth led to great splendour. Comrce has deserted some of these cities, but their past ries remain to emphasise the lesson which would erwise be lost, that a capacity for accumulating wealth d not be divorced from a capacity for dispensing it. at universities grow up in America as the result of a gle gift. In this country the streams of private evolence seem to have run dry. No great Manster merchants come forward to do for Manchester iversity in the twentieth century what Humphrey etham did for her Grammar School in the sixteenth tury. After weeks of most intensive propaganda and licity, a beggarly quarter of a million is put up, and in a country where excess profits to the tune of someg like five hundred million pounds have been made in course of a single year.

ennyson speaks of "acts that sting the fiery French- into war." I wonder what acts would sting the se proud, penurious millionaires of England into lic benevolence? Nothing, I fear, when a great ndon institution has to depend on the chance visit of erican medical men for its endowment. In America agnate founds a university; in England he founds a ily; and in the snobbish attempt to recreate a pseudocracy pours out possibilities of enriching the ntry which has impoverished itself for him.

ot only Manchester awakes these reflections. They aroused in York. Let who visits York go to the chant Adventurers' Hall and see the work to which Margaret Sellars has given her life. I visited it some e years ago. I saw it again a few weeks since, and am lost in admiration of what can be achieved by the energy and devotion a woman may give to a worthy cause—and it is a worthy cause, the loving care and preservation of these ancient buildings which the past has bequeathed to us. Are they not storehouses of history? Do they not breathe of the days that are gone? What is it that makes us human, not animal? Is it not that "we look before and after"? Does that not mean that the historian is as vital to us as the prophet? If we forget our past we obscure our future. If we do not know whence we come, what clue have we as to whither we go? And what is there that renews the past so vividly as our contact with its work? To walk the floors our fathers walked, to pass through the doors that opened and closed on them, to see through casements scenes they saw, what more effective way is there of realising our ancestry?

To the credit of York, let it be said, while the merchants of York have not been generous, at least they have not been grudging. They have shown some regard for their responsibilities—regard which might be deepened and extended—which, if properly manifested, should enable Dr. Sellars in a year or two to open out the surroundings of the Merchant Adventurers' Hall, to complete the work of restoration, so that all might see the life and purposes that gathered round these old buildings in the days that are gone. Chetham Hospital is happy in its independence of modern Manchester. The Merchant Adventurers' Hall is fortunate in the survival of something of the old generous merchant spirit in York.

But what shall I say of Newcastle, my own city? We do not lack wealth there. Much money is made on Tyneside. You need not be a very exalted person to number among your acquaintances a millionaire, if not in English pounds, at least in French francs, a multimillionaire in German marks and Italian lira. We have money in our city; we have also a great historic past. We have notable remains. Some of these have been saved to us. The Church of St. Nicholas, with its glorious spire, has found salvation in the ecclesiastical organisation of the north. The Society of Antiquaries preserve for us the Keep. The City Corporation has done something to save the old walls from ruin—from absolute decay. But perhaps the most interesting relic of mediæval days has been allowed to fall into utter squalor. In the very heart of the city, unknown probably to 90 per cent. of its inhabitants, is the site of the old "Black Friars" Monastery, with some of its ancient buildings still remaining. Up the centuries-old way of Low Friar Street and Monk Street, Kings and Barons passed to seek the hospitality of the "Black Friars." When the evil days of the Reformation came upon them their property passed into the hands of the Guilds, and there still remains. Round the old Square the Guild houses stand; their rooms used in part for the infrequent meetings of the Guilds, but mostly furnishing accommodation for the poorest class of dwellers in the city.

If Newcastle were Manchester, if Newcastle were even York, something might have been done to preserve this part, to make it what it should be, one of the chief attractions in Newcastle to those who care anything for what is of the past or to come. Is it too fond a dream to hope that one day there may stir in the mind of someone well-dowered an impulse to save this old place from utter ruin, to restore it to the position it once occupied; to make it again the centre of civic activities; to associate there in the future, as in the past, the connection between commerce and industry, between education and religion, which was the very composition of the ancient Guilds? May it be so. Judged by the test of its sense of values, Newcastle, though it has many causes for satisfaction, perhaps more for pride, fails. Who will redeem it?

The Week's News

The Westminster Abbey Fund

The Anglo-American Oil Co., Ltd., have presented £10,000 to the Westminster Abbey Fund.

Cavalry War Memorial

A proposal is afoot to erect a Cavalry Memorial in the Mall, London. The memorial will be to all mounted troops, British cavalry, yeomanry, Indian, and overseas Colonial contingents' mounted troops that fought on any front during the war.

Luxury Building Legislation

"I hope that it will be possible shortly to submit further proposals to Parliament in regard to the prohibition of luxury building, but I do not intend to propose a system of licensing for this purpose," states Dr. Addison in the Parliamentary debates.

The Cenotaph

There is a widespread desire, shared by the Cabinet, that the Cenotaph in Whitehall should be unveiled on Armistice Day. Unfortunately, as in the case of the Lincoln statue, which has a temporary base, and the Belgian monument on the Embankment, there is difficulty in procuring the stone. Of the stone itself there is no lack; what is wanting is labour at the quarries.

Fountain for Peace Palace

The Danish Government has sent to the Peace Palace at The Hague a fountain embellished with sculpture on a granite plinth. This massive fountain is the finest work of art that has ever been executed by the Danish Royal Porcelain Factory, and took five years to construct. It will be erected in a courtyard of the Peace Palace.

Empire Forestry

As an outcome of the British Empire Forestry Conference, which took place in London last month, definite recommendations for the creation of a forestry policy for the Empire have been made. A systematic survey of forests in each part of the Empire and the current and prospective demands on them is recommended, and in order to attain continuity in the development of resources the reservation of forest land under conditions which will prevent the alienation of primarily suitable land is desirable.

Mr. E. Howley Sim, A.R.I.B.A.

Mr. E. Howley Sim, A.R.I.B.A., acting upon his doctor's advice, has decided to give up his office at Mowbray House, 14, Norfolk Street, Strand, W.C., owing to ill-health. Mr. Sim's practice will be transferred to and carried on by his late assistant, Mr. Frank Nash, in conjunction with Mr. Geo. W. Smith, M.S.A., at No. 6, New Square, Lincoln's Inn, W.C., to whom all communications should be addressed.

Seven Dials Improvement Scheme

A proposal has been made for the development of part of the district of Seven Dials by clearing practically the whole area south of Broad Street from Shaftesbury Avenue to the junction of High Holborn and New Oxford Street. The scheme, which emanates from Sir George Parker, ex-Mayor of Holborn, would displace about 4,500 dwellers in poor tenements, for whom accommodation would have to be found elsewhere. It involves the purchase of properties covering about 13 acres, and the land cleared would be devoted to buildings for commercial purposes and the provision of broader traffic ways, including a wide road from Cambridge Circus to the corner of New Oxford Street opposite the Holborn municipal offices. The cost of the scheme is put at from £4,000,000 to £5,000,000.

War Memorials in France

In the House of Commons on July 26 Mr. Churc stated that applications had been received for twe five sites in France and Flanders upon which to e battlefield memorials to overseas troops. Sites had b acquired in a number of cases, and in others nego tions for purchase were being conducted by Dominion Governments concerned. Australia erected five memorials and Canada two unofficial o The official memorials would be erected at the expe of the Governments concerned.

New Garden Suburb for London

Hanworth Park, near Feltham, has been purcha by the Hanworth Park Public Utility Society, and proposed, on these 450 acres of richly-wooded beautiful country, to erect 3,000 houses for familie five or six. On this estate is Hanworth Hall, whic to be a club-house, and the centre of the social and c life of the suburb. St. George's Church stands in estate, there are avenues, orchards, and one of the Dutch gardens in England—all of which are to rem untouched. Each house will have a large garden.

London University Site

Sir Cyril Cobb, Chairman of the Education C mittee, stated at last Tuesday's meeting of London County Council, that the Senate of Lon University had been informed that under the pres proposals of the Government the Higher Education S Committee was not prepared to recommend a build grant to the Senate for the erection of new Univer buildings at Bloomsbury. The question was not suitability of the site, but the condition of the Gov ment's offer.

Memorial to London Troops

The Duke of Connaught will unveil the memoria London Troops outside the Royal Exchange at beginning of November. The memorial consists square panelled pillar surmounted by a lion suppor shields bearing the arms of the City and County London. Below are bronze inscription panels bea the names of the regiments, the principal battles, The pillar is flanked on either side by statues of me the London Regiments in full marching order, stan on pedestals. The memorial will be in Portland st with a granite base, the two figures and the memo tablets being in bronze. The total height will be 2 The bronze statues, 7 ft. high, will be the work of Alfred Drury, R.A. The memorial has been desig by Sir Aston Webb and Son, and will be executed Messrs. Trollope and Colls.

The Threatened City Churches

The London County Council have passed a res tion "deploring the proposal of the City of Lon Churches Commission to demolish nineteen churches, and expressing the belief that, on accoun their architectural, historical, or antiquarian inter the majority of them should be preserved, and if required for religious purposes should be devoted some other worthy public use." The following res tion, supporting the movement for preservation, been passed by the Court of the City Guild of Freem "That this meeting views with sincere regret the posal to destroy nineteen of the churches of the Cit London, and expresses the hope that these monum of historic interest, adding as they do to the world-w celebrity of our ancient City, may be ever preser and this meeting will actively support any movemen that direction."

(*Continued on page* 140.)

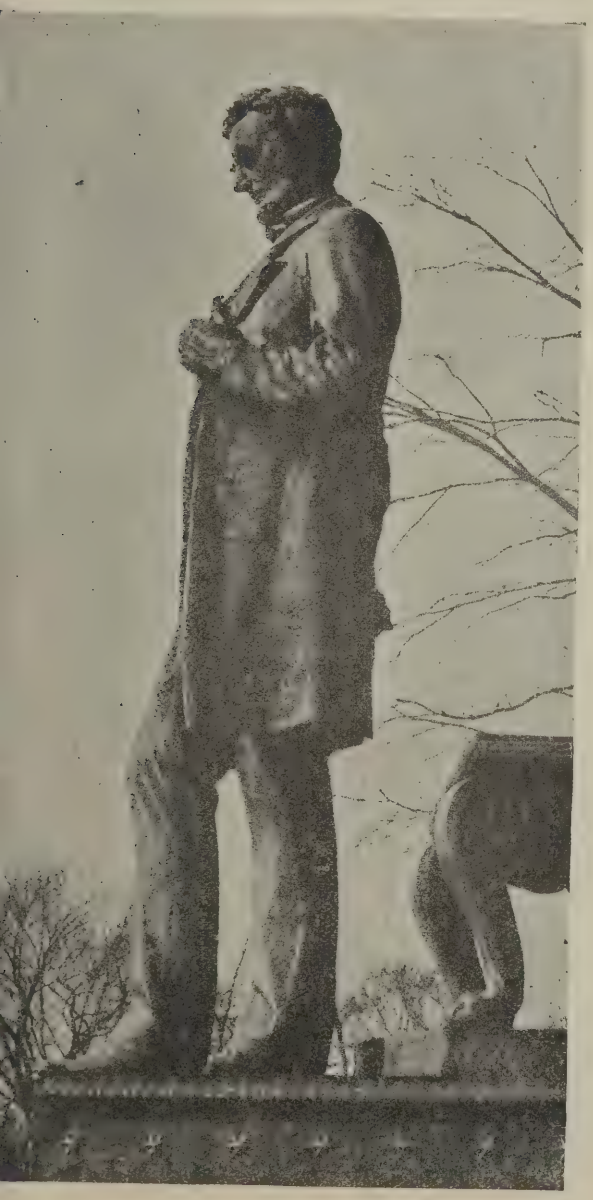
The Lincoln Statues

THE Saint-Gaudens statue of Abraham Lincoln, formally inaugurated at Westminster last week, has been erected within the Canning enclosure, and looks directly towards the Abbey, with the ouses of Parliament a short distance away on the left. r. Elihu Root made the presentation on behalf of the merican people, and the Prime Minister accepted the ft in the name of the British public. These proceed-gs took place in the Central Hall, whence a procession oceeded to the enclosure, where the statue was veiled by the Duke of Connaught in the presence of a rge and distinguished assembly.

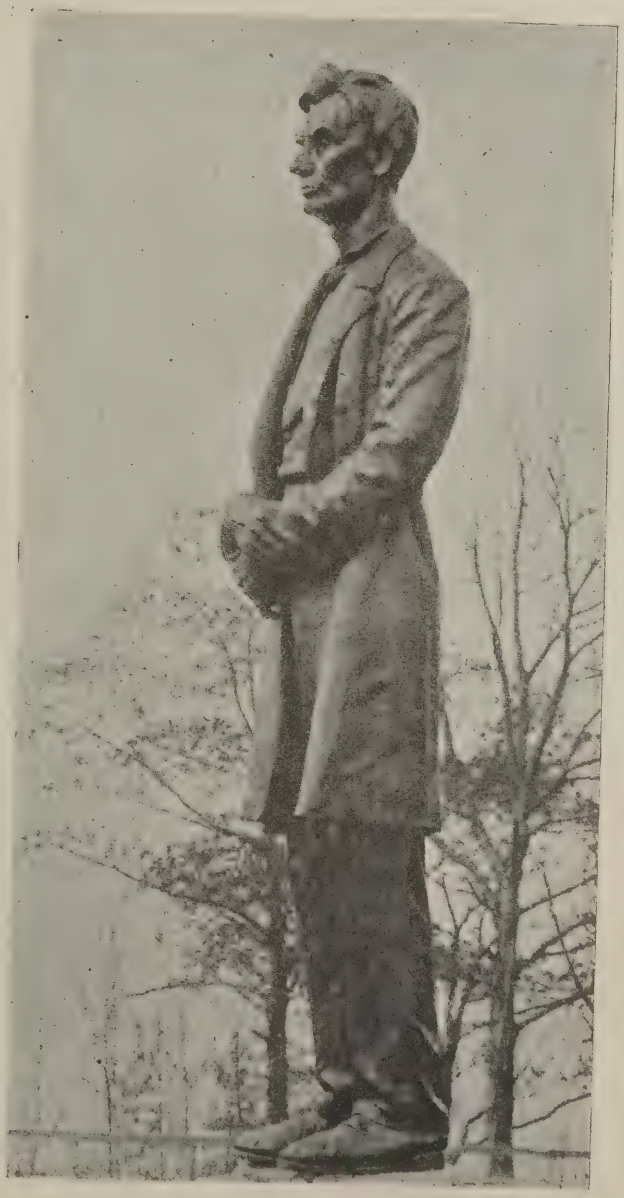
The statue is the work of the late Augustus Saint-iudens, a native of Ireland, son of a French father and Irish mother. In his childhood he was taken to the nited States, and ultimately came to be recognised as greatest sculptor that America has produced. The estminster statue is a replica of the great bronze onument in Lincoln Park, Chicago, which is generally nsidered to be the finest work of the sort in the United ates. It represents Lincoln in a standing position in nt of a massive chair. He wears a frock coat, and has a short beard, whereas in the Barnard statue, which was unveiled at Manchester last year, he is clean-shaven. The figure is 11 ft. high, and stands on a pedestal of equal height. The present pedestal is temporary, and will be replaced by a permanent base of granite in the autumn.

The unveiling of the monument recalls the controversy that raged some time ago on the other side of the Atlantic when it was first proposed to send a statue to this country. In the first instance it was intended that the statue should be a reproduction of Saint-Gaudens' fine work at Chicago. Later, however, an offer of a replica of Barnard's statue at Cincinnati was made by Mr. Charles P. Taft (brother of ex-President Taft), and this offer the American branch of the British-American Peace Centenary Committee accepted, only to provoke further controversy. Ultimately a compromise was reached by both statues being accepted.

The Saint-Gaudens statue is favoured by many because, while not pretending to be an exact likeness, it expresses very strikingly the popular conception of Lincoln's character. The Barnard figure, however, is



By SAINT GAUDENS (IN WESTMINSTER).



By BARNARD (IN MANCHESTER).

THE TWO STATUES OF ABRAHAM LINCOLN, NOW IN THIS COUNTRY.

claimed by others to be a far more real and life-like portrait. The respective merits of the rival statues may be fairly judged from the accompanying illustrations.

The claims of the opposing sides were very ably stated in the editorial columns of the New York "Tribune," and the Philadelphia "North American." The former newspaper, advancing the claims of the Saint-Gaudens statue, said:

"In the controversy over the statue of Lincoln much heat has been expended in denunciation of Mr. Barnard's production as a portrait. This is natural and proper. The sculptor's uncouth conception of his subject offers a point of attack as vulnerable as it is obvious. But it is not by any means the only invitation to criticism. This episode revives in acute form the whole question of what we can only describe as artistic manners. These—if the testimony of civilised peoples in all ages is worth anything—are explicit on the dignity essential to a public monument. Consider the largeness, the grandeur, of every great statue that has really withstood the test of time. Consider the majestic, impersonal character of Greek sculpture and the severe stateliness of Roman, the nobility superadded to the realism of heroic statuary in the Italian Renaissance, and the measured, orderly style predominant in modern France. This uniform tendency through the historic schools has never been determined by any vulgar triumph of academic formulas over individual creative genius. It has expressed, simply, mankind's innate sense of things, the natural human conviction that a public monument, as distinguished from the statue in a private gallery or from the purely decorative work of art, should be, above all things, monumental.

"We are not playing with words, bringing 'monumental' forward as a sort of esoteric mumbo-jumbo, behind which we might mean anything we chose. This particular word has not only a fixed meaning, but certain inalienable associations. The same lexicographer who defines a monument as 'anything erected to perpetuate the memory of a person or an event,' is careful to indicate that what is 'monumental' is, among other things, 'impressive,' thus recognising the eternal play of that universal instinct to which we have referred. How clearly the poets drive at this point! How consistently they portray their hero with an effort to detach him from his ordinary surroundings, to charge their every stroke with at once the truest and the loftiest meaning, to free the core of his character from petty details, to synthesise his traits and thereby to simplify them—to idealise him, in a word, and by virtue of so doing to make immediately comprehensible to the world, n alone his outward seeming, but the very soul of him."

The Philadelphia "North American," upholding t claims of the Barnard statue, said:—

"If a Lincoln is to stand in the shadow of tho venerable walls (Westminster Abbey), by all means l it be Barnard's Lincoln. Not because it is Barnard's but because it probably is the nearest possible approa to that rarest of achievements in imagery—the expo tion in one figure of both the physical and the spiritu stature of the subject. . . .

"If there is to be shown in the land of Magna Char a likeness of the great apostle of freedom, let it be nearly as possible a real one. . . .

"For if ever there lived a man who hated even t small and commonly overlooked deceptions, that m was Lincoln. It would be hard to conceive a personal more free from any desire to look or seem what it w not. Indeed, it is one of the bases of his greatness th he had no affectation of voice, glance, or manner. T very essence of his nobility is to be found in his ov complacent acceptance of his gnarled physical natu It was this as much as anything else that lent force a power to him. . . .

"Already the world is overweighted with sar papered 'ideal' effigies of men and women whose wo and worth make them worthy of such perpetuation. .

"Why any American should—how any Americ could—object to the setting up in other lands of this r likeness is not easy to understand. . . .

"If it be that the showing of big bony han broadened and toughened by grasping the axe a lifting heavy burdens, should displease peers wh manual digits are soft and tapering, let it be reme bered that most of the common people Lincoln lov and blessed are themselves possessed of hands akin this kind, and that their hearts must be quickened a their souls uplifted by the sight of such in one wh name is immortal."

"The very fact that Barnard's Lincoln does acc tuate the homeliness and soul-kinship of the man is best argument in behalf of its selection for this purpo It is that which makes of this unique likeness inspiring and enthusing influence. For a majority those who will pause before it in London will be hom men, and made more so by years of toil and struggli And these may be led by this Lincoln to a larger, tr estimate of their own and their children's possibilities

"On that face and in that figure, as Barnard has p served them for all time, is written enough to tell

ARCHITECTURAL SETTING OF THE LINCOLN STATUE, CHICAGO. *By* THE LATE STANFORD WHITE.

Details of Craftsmanship. 1.—Wrought-Iron Gates of National Scottish Memorial to King Edward VII., Holyrood Palace, Edinburgh

George Washington Browne, Architect. J. Starkie Gardner, Craftsman

These magnificent gates, which have just been completed, form part of the restored forecourt of Holyrood Palace, the laying out of which has been carried through from the designs of Mr. George Washington Browne. The gates, which, with their overthrows and wickets, rise to a height of 40 feet, are splendid examples of modern craftsmanship.

most ignorant peasant something worth knowing about the humanity of democracy. If this is not the purpose behind such a gift, then let the gift remain ungiven. And if there be any higher purpose, let some spokesman step forth to outline the manner in which it may be expressed."

At the preliminary gathering Senator Root delivered a fine address, in which he said that Lincoln was of English speech, and the English Bible and the English Shakespeare, studied by the flare of the log fire in his frontier cabin, were the bases of his education.

"Abraham Lincoln belongs to the common people of every land," declared Mr. Lloyd George. "He is of their race, of their kin, of their blood, of their nation—the race of the great common people. They loved that haggard face with the sad and tender eyes. There is a worship in their regard and a faith and a hope in that worship. This torn and bleeding earth is calling for the help of the nation of Abraham Lincoln."

The Duke of Connaught said that all Englishmen recognised in President Lincoln one of the greatest and noblest men the world had ever seen. Humble in origin, he was great in soul. He spoke the English language with an almost unequalled beauty, force, and simplicity.

The Duke concluded: "May the presence of this statue in our midst be an inspiration to us all of the great principles for which Lincoln lived and died, and may it constitute another bond to forge a lasting friendship and understanding between the British and American peoples. On behalf of the British people I beg Mr. Elihu Root to convey to the American people our most grateful and heartfelt thanks."

National Scottish Memorial to Edward VII., Holyrood Palace

Their Majesties the King and Queen, by making Holyrood their home while in Edinburgh recently, have once again raised this venerable and historic building to the status of a royal palace. The restoration of a forecourt became desirable, and a space equal to that in front of Buckingham Palace being available, it has now been enclosed. The laying out was entrusted to the distinguished Edinburgh architect, Mr. George Washington Browne, whose work is stately and appropriate. The necessary gates and railings were to be of wrought iron, not cast iron as is the case at Buckingham Palace, and the work was entrusted to Mr. J. Starkie Gardner, of South Lambeth. The north and south entrance gates, with their overthrows and wickets, rise 40 ft. high, and must rank among the finest examples of modern craftsmanship in iron. As may be seen by the illustrations in this issue, they are of restrained and dignified design. A third set opening on to the historic Canongate are less lofty, but richly treated, permitting a vista of the old highway to the Castle from the palace, and a good view of the latter from the street. The rail on the massive stone parapets between stone piers, is of the old William and Mary type at Hampton Court, but more lofty and restrained. The masonry at the northern end is not yet quite completed or ready for the ironwork, which repeats that already fixed to the south. Architect and craftsman are to be congratulated on a work of rare artistic excellence.

NATIONAL SCOTTISH MEMORIAL TO KING EDWARD VII., HOLYROOD PALACE: DETAIL OF RAILS.

GEORGE WASHINGTON BROWNE, ARCHITECT. J. STARKIE GARDNER, CRAFTSMAN.

Architectural Causerie: Thomas Bewick

(Concluded from last week.)

BEWICK gave as much care to the detail of an old stone chimney-piece as to the delineation of the Exchange at Newcastle, which he showed on a block measuring three and a half inches by two and a half inches, not forgetting the famous Crow's Nest on the vane. Bewick, unlike Malton, developed a peculiar style of perspective drawing, recalling the curious semi-elevational style of the mediævalist. His work, however, does not lose by comparison with that of the stylistic Malton; he contrived to combine art and accuracy in a small compass, and if we desire to verify the architectural character of the old 'Change at Newcastle, the authority of Bewick can be accepted without reserve.

* * *

And so we peruse the tailpieces, noticing the Labrador retriever harnessed to a wheelbarrow containing a barrel of rum and guided by a sailor; we obtain glimpses of a deserted village, with roofless houses; we note the character of light carts and broadwheeled farm waggons, the concise silhouette of bee skips, the arms of the Newcastle Waltonian Club, instituted six years before the death of the artist, and the picturesque confusion of many ancient village churches as yet unrestored by the Victorian enthusiast.

* * *

Bewick's scenes of village life are never forced; they are never comic or quaint. He could depict everyday scenes encountered in the North-country of Geordie Stephenson's day, even to the unfortunate dog tormented by village boys and running amok with a tin pot tied to his tail, and this on a block less than three inches by two. Whether we follow his untiring hand in the massing of the walls of a ruined castle, the lines and rigging of a brig, or in the representation of a rat, we encounter the burning enthusiasm of the true artist.

There is one engraving that is an especial favouri among architects. The scene is the lawn in front of substantial manor house, foursided and stoutly built. is the usual type of Georgian box, with two tiers of fi windows, and a substantial door at the centre. Ho Bewick must have delighted in the turret, with its sma cupola, and with what judgment he has shown the van At the side of this world in miniature Bewick has draw two poplars, and in the foreground one of these deligh ful stone garden rollers, with wrought-iron handles, wit out which no eighteenth-century garden was complete.

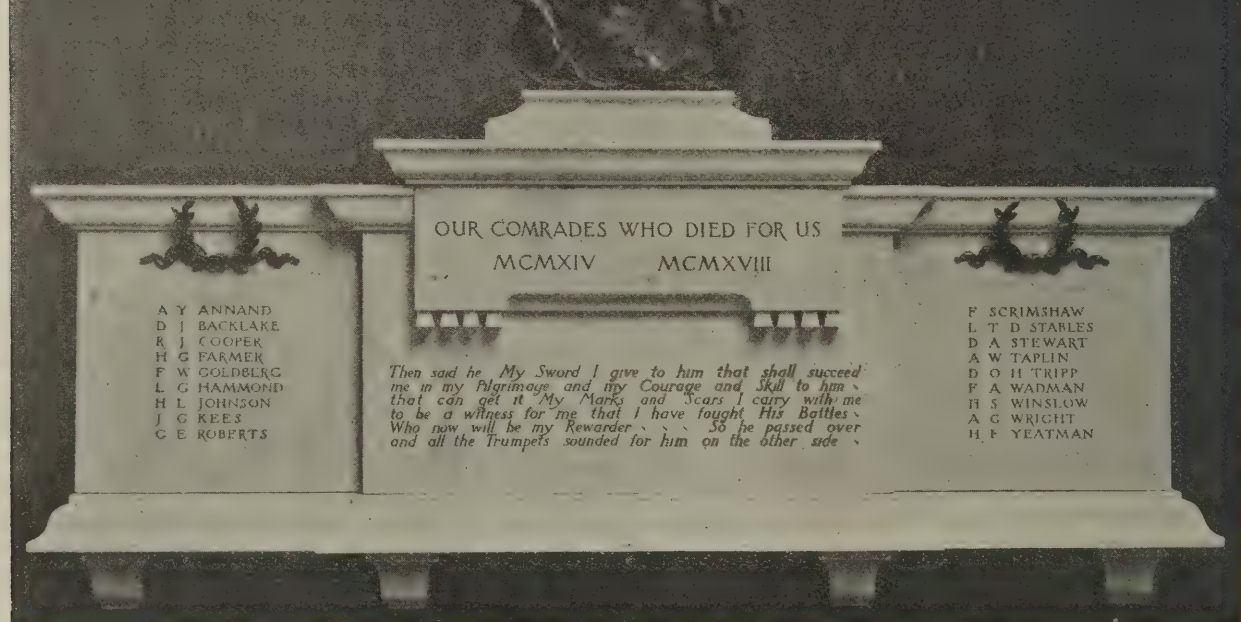
* * *

Bewick has recorded the twenty-third milestone fro London for the benefit of posterity on a space little bigg than a postage stamp. With loving care he has left the view of the ferry house at Ovingham, and from h pencil we judge of the shape of harness of the hackn and the pack horse. Stable, stall, park paling, rust fence, the windmills of Newcastle, hunting scenes, far implements, garden tools, kitchen interiors, and th apartments of opulent bachelors are clearly shown Bewick's miniature gallery.

* * *

Both Malton and Morland belong to the ambitio school. Blake to the monumental and the eternal, th Sandbys to the dainty and the elegant. Thom Bewick, as every follower of this genius will admit, cul vated the art of design with historical precision; on th account his work lives. He was a kindly critic of h fellows, and brought the ripe judgment of seventy-fi years of experience to bear upon his work. The prese is the age of the artist; it is the opportunity of the arch tect. We do not seek to revive old customs, but rather combine the sanity of the past with the spirit progress.

AERO.



WAR MEMORIAL PANEL IN ENTRANCE HALL OF THE PUBLIC TRUSTEE OFFICE, KINGSWAY, LONDON. DESIGNED BY F. ARNOLD WRIGHT, R.B.S.

This memorial is carried out in Sicilian marble and bronze. The inscription is taken from the farewell speech of "Valiant for Truth" in Pilgrim's Progress.

Details of Craftsmanship. 2.—Wrought-iron Gates of National Scottish Memorial to King Edward VII., Holyrood Palace, Edinburgh

George Washington Browne, Architect. J. Starkie Gardner, Craftsman

These gates open on to the historic Canongate, and, though less lofty than those shown on page 121, are notable for their dignity of design and richness of detail. Some notes on the general scheme of the memorial are given on page 123.

UNIVERSITY OF ILLINOIS LIBRARY

OCT 3 1941

Acoustic Properties of Partitions

Some American Experiments

EXHAUSTIVE investigations with regard to the relative degrees of sound-proofness in metal, lath and plaster, and other partitions have been carried out by Prof. F. R. Watson, of the University of Illinois. Many months were spent in perfecting instruments which would positively measure the various amounts of sound which came through the walls. The Rayleigh resonator, adjusted to a sensitiveness calculated to be capable of measuring the minuteness of the sound transmitted through various partitions, was finally adopted. It consisted of a brass tube in which was suspended by a quartz thread a mirror which moved at an angle relative to the intensity of the sound entering the brass tube. The amount of deviation caused a spot of light to move on a scale, and thus, by means of mathematical calculation the exact amount of sound could be determined independently of the ear. The resonator was of the same order of sensitiveness as the human ear, thus giving a reliable instrumental substitute for the latter, since the ear is untrustworthy for quantitative measurements of the intensity of sound.

Because of the different kinds of partitions which were to undergo tests, standardisation was the key necessary to the accuracy of results. The equipment for the test was worked out in detail beforehand, so that no change in conditions was necessary.

The Experiments Described

The experiments, which were commenced in November, 1918, were conducted in two basement rooms separated by two isolated 9-in. brick walls, the ceilings and floors being of concrete, the latter supporting a wooden floor. The double wall between the rooms was cut through and the plaster partition under test was built in this space solidly. In order to keep the sound absolutely constant, a modified organ pipe was especially designed for the test. It was adjusted to give a pitch of one octave above middle C and was blown by air from a standard pressure tank. This sound is of the quality and pitch usually found in inhabited buildings. The mouth of the organ pipe was placed at the focus of a reflector, so that practically all of the sound was directed towards the partition under test. In this way an effect was obtained similar to that resulting from a searchlight.

In order that the bulk of the sound be directed against the partition under test, the reflected sound was largely absorbed by padding. So careful and intricate was the work that it required about two years from the first study of the problem to perfect the apparatus and complete the test.

According to the "Architectural Forum" of America, four distinct tests were successfully carried to completion, comparative measurements being made of the amount of sound passing through partitions of successive thicknesses of plaster board and of the following constructions:

1. So-called "hollow partition" having both sides blocks as manufactured.
2. Same blocks with all holes filled with the same material out of which the blocks were made.
3. Solid plaster partition with metal lath core.
4. Solid plaster partition with plaster board core.

The partitions were erected by expert journeymen mechanics, according to the usual practical methods. The same plaster was used on all samples. A preliminary test of a thin coating of gypsum plaster on one side only of metal lath indicated a degree of insulating value of the plaster equivalent to ten layers of outing flannel. When the plaster coat was increased to one-half inch in thickness the resonator showed a deflection about one-sixth as great as for the thinnest coating. The later experiments were to determine the most efficient thickness of plaster partitions, and to learn the relative effects of different partition cores.

Dead Air Spaces and Soundproofing

Block partitions have air spaces in them which have been looked upon as aids to securing sound-proofness. From a scientific standpoint dead-air space is an efficient sound deadener, but in these blocks the air spaces are not continuous; they are broken by connecting links of the block material, and in the tests under discussion the results show that the bridged openings are a detriment to soundproofing rather than a help.

Tests were conducted with the usual 3-in. plaster block partition, plastered both sides, and also with a partition built with similar blocks with the hollow spaces filled with the same material from which the blocks were made and plastered both sides as in the previous instance. The results obtained by the instrument reading were as follows:

Three-inch plaster block partition, plastered on both sides and with holes filled in with plaster—relative intensity of transmitted sound 1.16.

Three-inch plaster block partition, plastered on both sides, with holes left as manufactured—relative intensity of transmitted sound 3.85.

The foregoing tests proved the greater efficiency of solid partitions over those with hollow-bridged spaces. The later tests considered two types of solid partitions, one with a metal lath core, and the other with a plaster board core. Both partitions were tested after plaster coats had been successively applied till the thickness of each partition was 2 in. The results of this comparative test showed the following:

Solid metal lath and plaster partition—relative intensity of transmitted sound 0.93.

Plaster board and plaster partition—relative intensity of transmitted sound 2.33.

Minimum Thickness of Plaster

For many years it has been customary to make solid metal lath partition 2 in. thick; there was no scientific or theoretical structural reason for this thickness—it was the result of practical experience. One purpose of the test was, therefore, to determine scientifically the minimum thickness of plaster partitions at which sound-proof efficiency was reached. This was determined by starting the readings of the transmission of sound with the thinnest layer of plaster possible to lay on the metal lath and plaster board which constituted the respective cores of the two types of partition used for this particular test. The plaster was put on in successive coats until a total thickness of 2½ in. was reached for each of the partitions.

At about 2 in. in thickness it was apparent that the metal lath partition had fully developed the efficiency of the plaster. The plaster board partition, on the other hand, at 2½ in. thick did not show as effective sound insulation as the metal lath partition at 1⅝ in.

The readings indicate that sufficient sound-deadening qualities are had with a plaster partition with metal lath core at a thickness of 1½ in. The full efficiency of the plaster is had at 2 in., and for structural reasons, particularly on long and high partitions, it would seem desirable to maintain the 2-in. thickness as standard.

Professor Watson finds several reasons for the insulating value of the solid metal lath partition. He states that "The superiority of the metal lath and plaster partition is doubtless due to several qualities. The metal lath core, because of its open mesh, not only allows the construction of a homogeneous plaster medium that is continuous from one face through the metal lath to the opposite face, but it also reinforces the partition. It has therefore the desirable quality of inertia with increased rigidity.

"The superiority of the plaster block partition with plaster filled air holes over a similar partition with open air spaces would appear to be due to increased weight or inertia. Both of these partitions appear at a disadvantage because of the lack of homogeneous structure. Buttering the joints with plaster, particularly at the ends of the blocks, does not always ensure continuity of plaster, and thus leaves possible cracks or channels through which sound may pass. This would also tend to weaken the partition compared with one in which the joints were completely filled.

"Other conclusions might be set forth, but the illustrations cited are sufficient to show the degree of concordance between theory and experiment."

Transmission of Sound Waves

The theory of sound waves and their transmission through different media on which the tests were based is explained by the following quotations from Professor Watson's report:

"Sound of a definite pitch consists of a regular series of alternate pressures and rarefactions that travel out from the source in spherical waves, each particle in the path of the sound moving back and forth with an oscillating motion. On meeting a second medium, the regular progression of the waves is disturbed. Part of the energy is thrown back in the form of reflected waves and part transmitted, the relative amounts depending on the change in elas-

ticity and density of the second medium compared with the first.

"According to this conception, sound generated in a room may be transmitted elsewhere in a building in several ways:

"1. It may progress with considerable ease in the continuous air passage of a ventilator pipe, or through open doors and halls without encountering a new medium to reflect it. A similar transmission with diminished intensity may take place through threshold openings and partition cracks.

"2. Sound in a room may be transmitted through the partitions of a room, but with more or less difficulty, depending on the qualities of the structure. Thus the inertia of a partition plays an important part. On striking the heavy partition particles, the air particles of small weight are thrown back in much the same way that a tennis ball would be on striking a cannon ball.

"The partition particles are moved backward and forward slightly by the incident pressures and rarefactions so that sound waves, greatly diminished, progress through the partition. Since the latter is thin compared with the wave length of the sound, all the particles in it may be thought of as moving simultaneously in the same direction; that is, the partition may be considered to move back and forth as a unit. This motion is carried to the air on the further side where diminished waves are set up that constitute a faint sound.

Displacement by Sound Pressure

"In case the partition is limited in extent and fastened at the edges, as it must be in any form of partition construction, the sound pressures must overcome not only the inertia of the plaster but also its rigidity or its resistance to being distorted. A sound pressure applied perpendicularly to the surface causes a minute displacement, which is greatest at the centre and zero at the edges, so that the partition becomes slightly bulged with a small increase in area. The less a wall gives under such a force the more efficiently will it stop sound. It should be remembered in this connection that the pressures due to sound are not static, but are rapidly alternating pressures and rarefactions of very small amplitude. The displacement of the partition is so small for usual sounds as to be invisible to the unaided eye.

"Another factor affecting the transmission of sound through a partition is the character of the structure. A thick, homogeneous structure has the advantages of greater inertia and rigidity compared with a thin partition. The use of an air space completely separating two members of a double partition would have a marked action on sound and would stop, according to theory, many times more sound than a single partition whose thickness equals the sum of the thickness of the two members of the double partition. This is due to the abrupt change in elasticity and density from the plaster to air, and vice versa from air to plaster as the sound strikes the second member. In case the air space is bridged over, as is usual in practical constructions at the ceiling and floor and at other points, this theoretical efficiency is greatly diminished because the vibrations travel easily along the paths afforded by the continuity of solid materials. The bridged-over partition thus should be considered as a unit and its efficiency in stopping sound judged mainly on its weight and rigidity.

"The core of a partition is another feature of structure that affects the transmission. It may be of such a nature as to increase the strength of the partition, or it may be simply the central part of a homogeneous medium, or it may be considered as separating the partition in two parts, so that the structure is weaker than a homogeneous unit. A partition with increased strength due to the core, such as steel reinforcement, would be more rigid in stopping sound pressures than an equally thick homogeneous partition. The homogeneous partition in turn would be more efficient in stopping sound than the double partition weakened by the core. The latter, however, has some possible advantage in reflecting sound because of the change in elasticity and density in the core. An extreme illustration of this kind would be the case where the core was made of hairfelt, so that the act on in stopping sound would be analogous to an air space. If the core consisted of a sheet of thick paper, making a continuous contact with plaster on both sides with no air space, this efficiency would be largely lost and the small gain due to reflected sound would appear to be overcome by the loss in rigidity of the structure.

"Finally, the transmission of sound depends on the vibrations of the partition which acts in this regard like a thick elastic plate. The rapidly alternating pressures and rarefactions of the sound waves set the partition in minute motion and thus create corresponding pressures and rarefactions (sound waves) on the further side of the partition. The effect is intensified and the transmitted sound increased in volume if the natural period of the partition is in tune with the sound waves. The vibrations are usually small for ordinary sounds and partitions, probably not exceeding 1-100 of an inch in amplitude. They decrease in intensity in walls of greater rigidity, other factors being the same.

"Theory and experiment both show that the transmission of sound through partitions is a complex phenomenon depending upon a number of factors such as inertia, rigidity, structure and vibration. It is difficult to draw comparisons from theoretical considerations for partitions that vary in several factors because the theory is admittedly incomplete.

"Experimental measurements in a situation of this kind appear to give the most direct evidence, so that the results recorded here may be taken to represent the relative merits of the partitions."

Messrs. Parsons's Colour Scheme Competition

The competition promoted by Messrs. Thomas Parsons and Sons for the decoration of their premises at 315-317, Oxford Street, W., resulted in the receipt of close on seven hundred designs, many of which were exhibited in the company's galleries on the occasion of the distribution of prizes by Lady Burnand a few days ago. In our issue of last week we published the names of the prize winners and the five eminent assessors who selected them. Of these Sir Reginald Blomfield, R.A., Sir Edwin Lutyens, R.A., and Sir David Murray, R.A., were present, the company also including Mr. George Parsons, Mr. Wm Parsons, and a large gathering of guests

During the proceedings Sir Reginal Blomfield and Sir David Murray delivere addresses on colour decoration as applie to exterior work.

With regard to the design of Mr. H. A Rees, which was placed firs and carrie with it a prize of 100 guineas, his schem shows great skill and a fine sense of colou harmony. Broadly considered, th fec is distinctly Eastern, and somewhat gests a tiled facade based on Persian tradi tion. Whether or not these subtle sug gestions of varying depth of colour ar capable of translation to a stucco exteric by means of evenly applied oil paints re mains to be seen.

Rent Restrictions Act

The Ministry of Health have issued summary of the principal provisions of th Increase of Rent and Mortgage (Restri tions) Act, 1920, which received Roy Assent on July 2, repeals all the previou Rent Restriction Acts, and is now the on Act on this subject in force. The ne Act remains in force until June 24, 192 except that the provisions relating to bus ness premises will only remain in for until June 24, 1921. The object of t summary is to set out in general terms t main provisions of the new Act, althou it must not be regarded as an authorit tive exposition of the precise rights landlords and tenants under the Act. T general scheme of the Act is similar to t scheme of the Acts which have been pealed. It fixes a "standard rent" certain classes of houses and a "standa rate of interest" for mortgages on su houses; it prescribes what increases in t rent or rate of mortgage interest may charged; and it makes it impossible to d possess a tenant or call in a mortgage, cept in certain specified cases, so long the proper rent or rate of mortgage terest continues to be paid. The su mary, which is published by His Majest Stationery Office, may be purchas through any bookseller or directly fr H.M. Stationery Office, price 2d. net.

Housing Contract for London Guild

The tender of the London Guild Builders has been accepted by the W thamstow Urban District Council for erection of 400 houses. The accepta of the tender, which approaches £400, is subject to adjustment of details and sanction of the Ministry of Health.

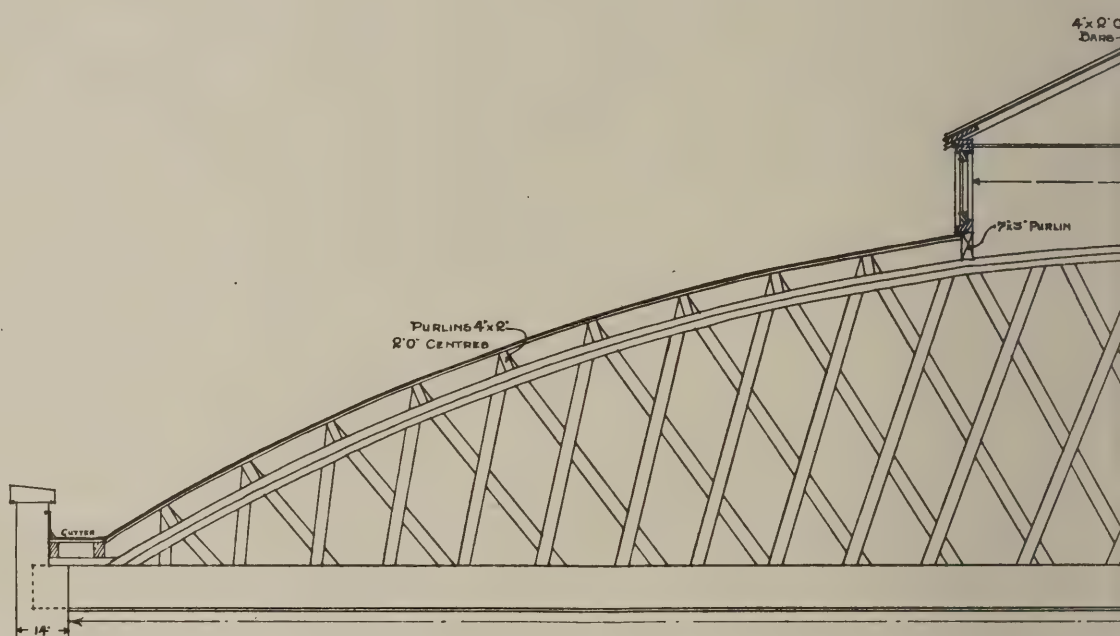
The Guild consists of trade unions liated to the London District of National Federation of Building Tr Operatives, and each member on elec takes up a shilling share in the soci which is registered under the Indus and Provident Societies Acts. The im diate duty of the Guild is to mob labour to build houses and to build t in the best possible manner at the lo possible cost.

The full standard rate of wage wil paid.

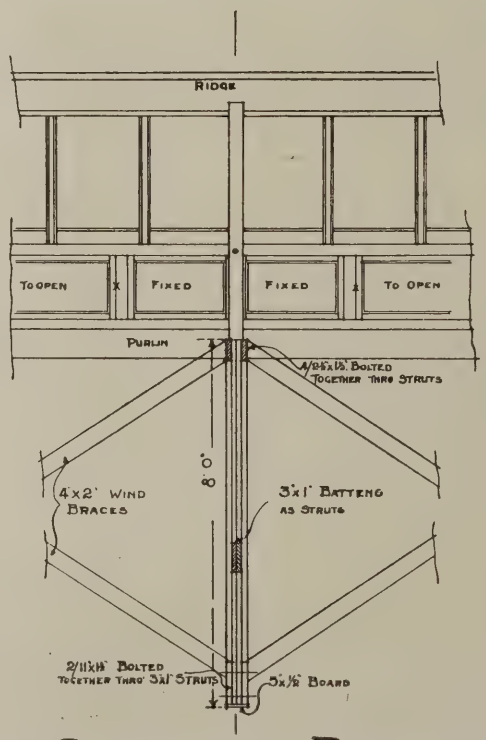
The houses to be erected are of the narv cottage class, and the price w out at about £900 each. There is allowance to the Guild of £40 a h which compensates for any lost time. Guild takes 6 per cent. of the total ter to be spent in improving the organis generally.

OF ILLINOIS URBANA
3

Architects' Working Drawings.
Road, Handsworth, Birmingl
Hurley Ro



— ELEV

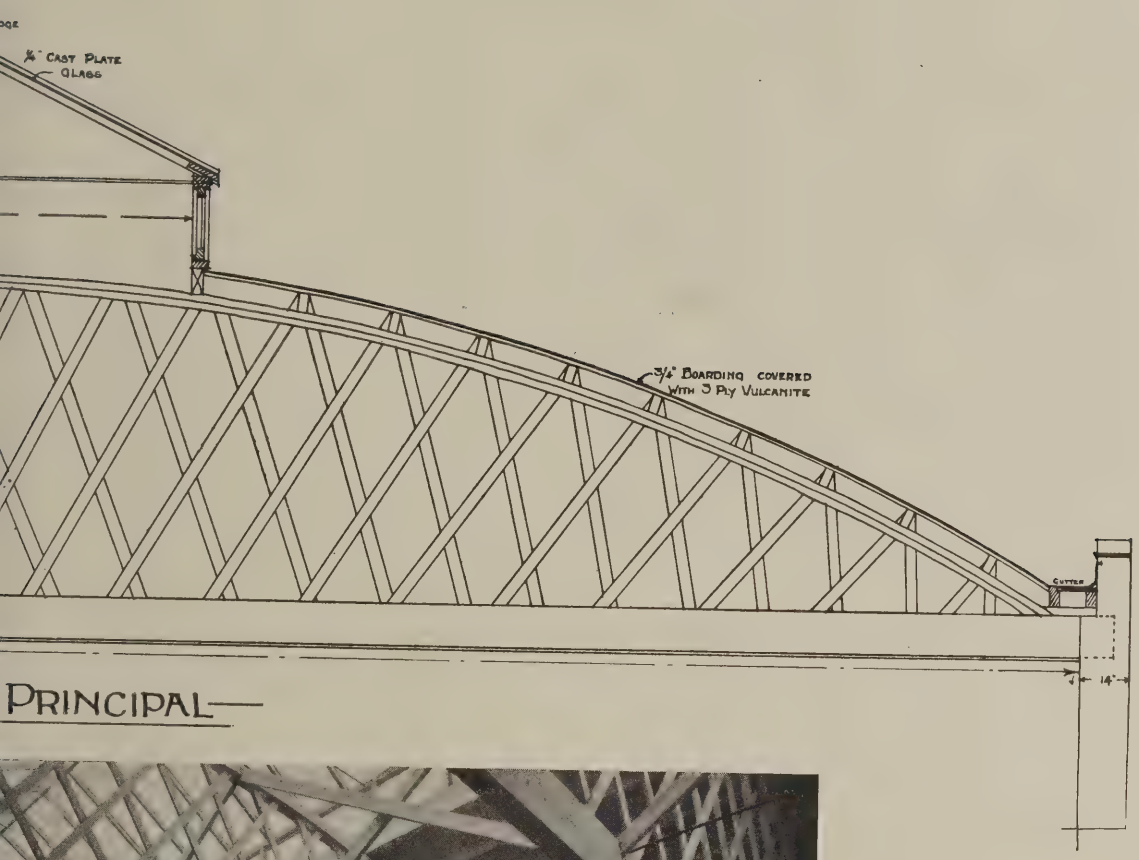


— SECTION OF PRINCIPAL —

This is an excellent example of a motor garage constructed on s
ensures an abundance of light over the whole floor area.

tor Garage and Show Room, Soho
ails of Belfast Roof Principal

.A., Architect



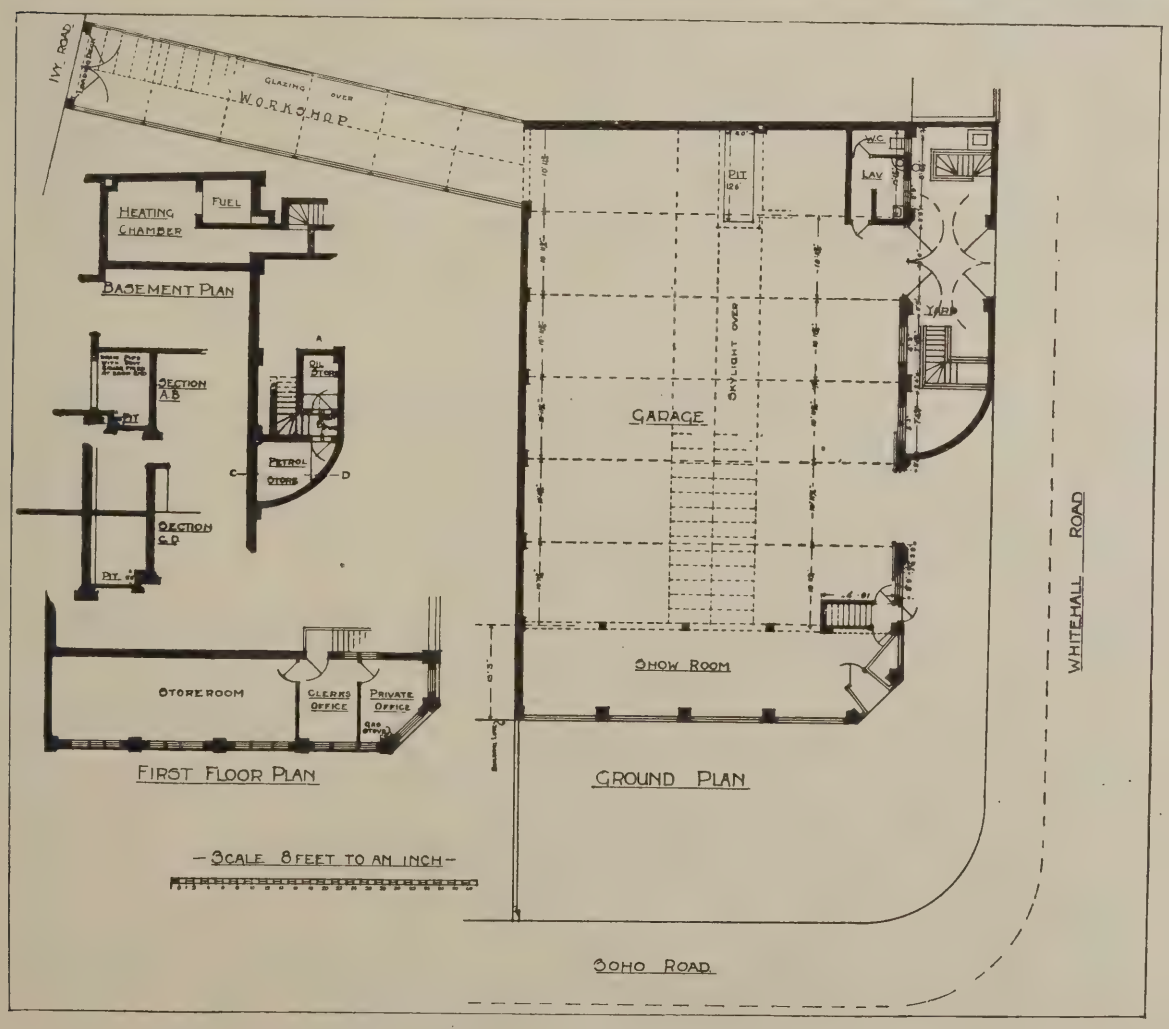
PRINCIPAL—

The roof itself is of the Belfast type, with a glazed toplight, which
of the garage, with descriptive notes, are given on page 133.

Construction. 11.—A Motor Garage

The motor garage illustrated on this page and on the double-page plate in this issue has been erected from the designs of Mr. Hurley Robinson, F.R.I.B.A., the proprietors being Messrs. Mottershead and Smith, Ltd. The work was commenced in June, 1919, and completed by January, 1920, the total cost having been £5,000. The walls are of brickwork, with white cement pilasters and cornice, the roof over the general garage being of the Belfast type.

The general contractor was Mr. Percy W. Cox, of Handsworth, and the following were sub-contractors: Messrs. Bryan Adamanter, of Birmingham (fireproof floors); Messrs. Elwell and E. C. J. Keay, of Birmingham (steelwork); Messrs. Hewetson, of Bilston (roofing); Messrs. Parker, Winder, and Achurch (casements); Messrs. Waker, Son and Harrison, of Birmingham (patent glazing and fittings); Messrs. Toogood, of Birmingham (plumbing and gasfitting).



MOTOR GARAGE AND SHOWROOMS, SOHO ROAD, HANDSWORTH, BIRMINGHAM.

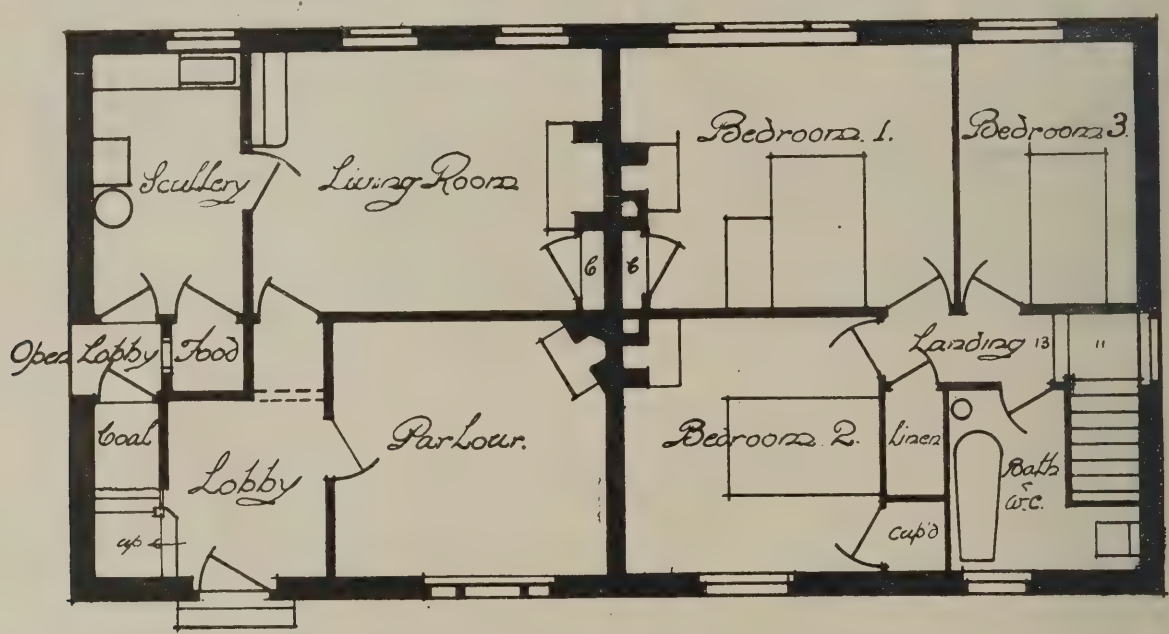
HURLEY ROBINSON, F.R.I.B.A., ARCHITECT.

The Bristol Housing Scheme

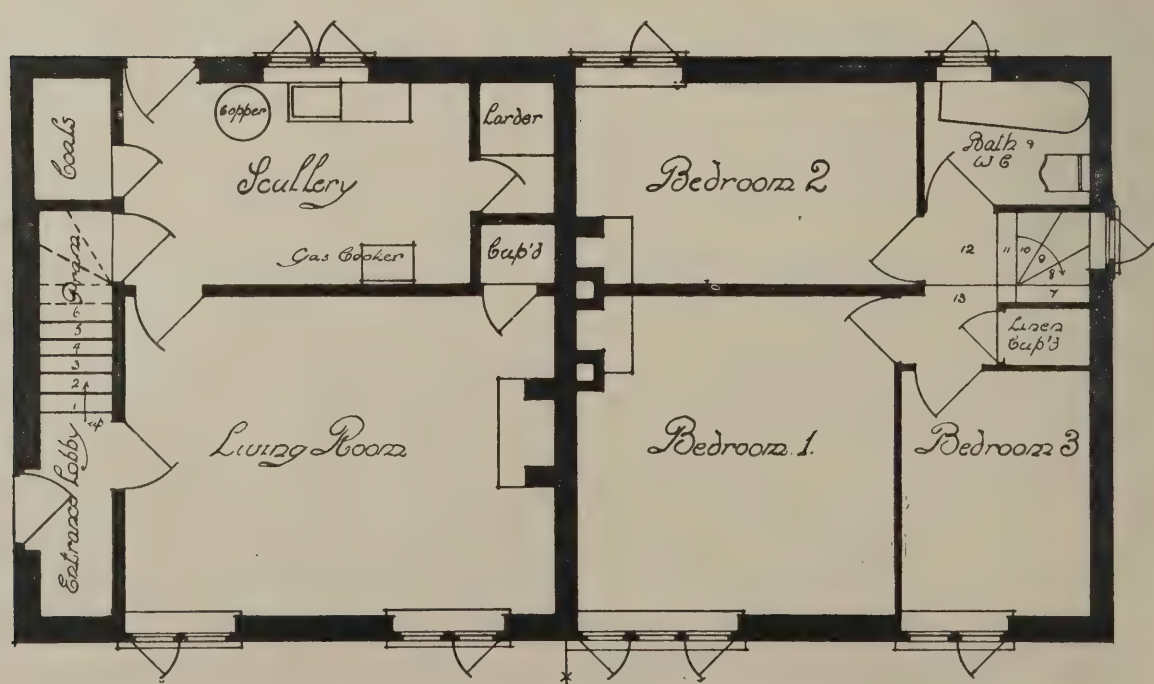
BUILDING operations are in full swing on the scheme of the Bristol Corporation to erect 5,000 houses on a number of beautiful village suburbs on the extreme boundaries of the city. The population of Bristol is about 370,000, and prior to the war the average growth of the city was about 750 houses annually, practically all of which were built by private enterprise. At the present time the shortage has been variously estimated at from 5,000 to 8,000 houses. Large areas call for clearance or reconstruction, and this will necessarily mean that a large number of houses must be built to take the place of those which will be demolished. It is therefore reasonable to estimate that the building of 1,000 houses annually, for the next fifteen years, will not be more than sufficient for the growing needs of the city.

In deciding upon the present scheme, the Housing and Town-planning Committee, under the chairmanship of Mr. E. W. Savory, have visualised the whole situation, and developed building operations in relation to the future growth and requirements of the city, as distinguished from immediate present-day needs. On the fringe of the city there are many partially developed roads and streets where houses might have been erected, but, if this policy had been adopted, in a few years they would have been swallowed u in the ordinary growth of the city, and th procedure would have given no scope f development on modern scientific line Eight sites, a total of rather more tha 700 acres, have been acquired, and t average cost of the land has been abo £220 per acre, the lowest price paid bei £100 per acre, and the highest price £4 per acre.

Having acquired the sites, the committ were determined that development shou proceed on the best possible lines, a their first step was the appointment Mr. C. F. W. Dening, F.R.I.B.A., as th advisory architect. The lay-outs of t sites, some of which were illustrated in o



Parlour Type. B. Wakefield, Licentiate R.I.B.A., Architect.



Living Room Type. Maidman and Greenen, Architects.

BRISTOL HOUSING SCHEME: TYPICAL PLANS.

Modern Domestic Architecture. 13.—Bristol Housing Scheme: Three Typical Elevations

Bristol Corporation is now erecting no fewer than 5,000 houses in a number of village suburbs on the city's boundaries. Three typical groups are shown above. Those on the left are by Mr. B. Wakefield, Licentiate R.I.B.A., those in the middle by Mr. S. S. Reay, F.R.I.B.A., and those on the right by Messrs. Maidman and Greenen. Typical plans are shown on the opposite page.

UNIVERSITY OF ILLINOIS LIBRARY

issue of June 16, have been prepared by Mr. Dening, acting in co-operation with the city engineer, Mr. L. S. Mackenzie. The houses are planned on an average of ten to the acre, each house having its own garden planted with fruit trees. The main roads or avenues will be planted with trees.

In order to obtain the best architectural talent available, the Committee, during the period in which the lay-outs were being prepared, instituted a competition for designs for houses, which was thrown open to the whole of the architects in the West of England, premiums being offered to the value of £1,200. On the advice of Sir Aston Webb, P.R.A., Mr. Ernest Newton, R.A., was appointed assessor of the plans, he acting with Mr. C. F. W. Dening in this matter, and, as a result of the competition, the following eight architects were elected to form a board of architects to carry out the housing scheme: Messrs. C. A. Farey, A.R.I.B.A., Maidman and Greenen, S. S. Reay, F.R.I.B.A., B. Wakefield, Lic.R.I.B.A., H. Heathman, Lic.R.I.B.A., and Miss Blacker, Messrs. Arnold Mitchell, F.R.I.B.A., A. B. Cotterill, A.R.I.B.A., and W. H. Watkins, F.R.I.B.A. Typical plans and elevations of the houses which are being erected are illustrated on pages 134 and 135. The parlour type provides accommodation for lobby, open lobby, parlour, living room, scullery, three bedrooms, bathroom and w.c., and food, linen, and coal storage. With the exception of the parlour and the open lobby to the coals, much the same accommodation is provided in the living-room type. Both types are compactly and admirably planned. A number of the houses are being erected by direct labour under the control of the city engineer.

Correspondence

The Building Trades' Parliament

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Soon after the meeting of the Building Trades' Parliament in August, 1919, when an interim report was presented on what was then described as "Organised Public Service in the Building Industry," articles and letters appeared which, to say the least, were not favourable to the proposals outlined in the report.

As chairman of the committee which produced the report, I have carefully refrained from taking part in Press discussion on the subject. Even now I do not propose to discuss the merits of the report. But I am concerned about the attitude of mind revealed, so far as employers have expressed themselves, upon the matter; and I feel so strongly about it that I ask the favour of space in your columns in order that I may plead for a broader consideration of matters of such importance as are under discussion. I do this because, after being referred back to the committee for reconsideration, the report is to come up in amended form at the annual meeting of the Parliament on August 12, 13, and 14 next.

It will be remembered that in the first instance the committee were commissioned to enquire into the question of "Scientific Management and Reduction of Profits," and to report thereon to the "Parliament." There is no more serious socio-economic problem than this and the question of the equitable distribution associated with it. In preparing the interim report the majority of the committee were convinced that to effect any real improvement it would be necesary to go down to fundamental principles, which, in their opinion, were not only economic, but moral and psychological.

Subsequent consideration has only served to strengthen that view, and in the amended report it will be reaffirmed. The report, however, will be changed in form, and the less controversial and non-controversial proposals dealing with regularisation of employment, provision of pay during unemployment, material organisation, accountancy, and costing will be presented as Part I. of the report. The highly controversial portion of the interim report dealing with the pay of management, limitation of profit, etc., will appear as an appendix, together with another appendix outlining a scheme for a National Building Guild, and a minority report signed by the five employer members of the committee who could not see their way to sign the interim report. It is hoped that this method of presentation will facilitate orderly discussion. At this stage the really urgent and vital matters are contained in Part I., and it is essential that they should be discussed on their merits. The subsequent discussion on the appendices may help to promote clarity of thought upon ideas which are very much in the minds of certain sections of the public, and in that sense will undoubtedly do good. Apart from that, their discussion must, of necessity, be somewhat academic.

What matters most is that employers should really try to understand the operatives' point of view, and what it is that has rendered necessary such an overhauling of our methods. The attitude of mind that served in the first half of the nineteenth century will not serve now. Many operatives are well-read and thoughtful men, and have given much study to such subjects as industrial history and economics; while, in a vague way, all are dissatisfied with things as they are. The operatives are not alone in this, for some employers in our industry and in others have not only the sympathy but the knowledge which enables them to recognise that the operative has a right to have his claims considered.

Apart from this there is the broader question of the social well-being. It is the duty of all who can to serve, and to serve well. There is no justification for the slacker, whether he is a blasé, well-to-do West End loafer or a workman in corduroy. In view of the activity of thought—some bad, but much good—that is now so much in evidence, I appeal to fellow-employers in every section of the building industry to give the fullest and fairest consideration to the proposals that will be discussed by the Building Trades' Parliament at its August meeting.

A number of other important questions will be dealt with, including the somewhat troubled relations of the Ministry of Health with our industry in the matter of housing. Reports will be discussed, and subsequently published, which will enable the public to realise that the building industry is not as remiss as certain political persons have tried to make out.

It is hoped that the professional and trade Press will give as full accounts as possible of the meetings and the various reports. It is doubtful whether, in the light of past experience, the daily papers have use for any such news, but even they may come to realise that such questions as the Building Trades' Parliament is dealing with are among the things that really matter.

THOS. FOSTER.

Stoppage of Building

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—In your issue of July 21 a correspondent raises a question as to what is being done by the R.I.B.A. with regard to the Government restrictions on building.

The Council have requested the Building Industries Consultative Board, which includes representatives of the architects, the surveyors, the contractors, and the operatives, to deal with this matter. The board have, as a first step, approached the County Council, to whom they are about to send a deputation.

The Council have also appointed a Stoppage of Building Committee for the purpose of organising the meeting of protest desired by the General Body. This committee has approached the other societies and interests affected, and has invited them to take joint action with a view to a public protest. It has also initiated an enquiry into the actual working of the Government restrictions, so that it may be in the possession of established facts as a basis for its campaign.

It is regretted that, so far, very few members have responded to the request, which has appeared in the R.I.B.A. journal and all the professional Press, to furnish the committee with facts and figures bearing on the subject. No action will be effective unless it is fully supported by evidence.

ARTHUR KEEN,
Hon. Sec. R.I.B.A.

Victoria Tower: The Suggested Installation of Bells

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Adverting to the article in your issue of July 14 on the fascinating subject of church bells, and with special reference to the interesting announcement that an East Anglian town contemplates the erection of a belfry, with carillon apparatus, permit me to draw your attention to the following question put in April last to his Majesty's First Commissioner of Works by Mr. C. H. Sitch, the member for the Kingswinford division of Staffordshire:—

"Mr. Sitch asked the First Commissioner of Works if he has considered, and if not, will he, the possibility of adapting the accommodation of the Victoria Tower, Westminster, to the installation of bells and the carillon apparatus, as a Houses of Parliament memorial of the Great War?

"Sir Alfred Mond: I am considering the suggestion of my hon. friend, but, in view of the structural alterations which would be required to the tower and of the expense involved, I fear the scheme is not likely to commend itself to members of either House."

I venture to express the hope that this suggestion will receive further consideration, and that, in due course, London will possess a belfry equal to any on the Continent.

W. A. A.

Brighton Housing Conference

The Southern Home Counties Regional Housing and Town Planning Conference, convened for the counties of Sussex, Kent, Surrey, Hampshire, and the Isle of Wight by the National Housing and Town Planning Council, was held at the Town Hall, Brighton, on July 26 and 27. Major C. P. Lovelock, joint hon. treasurer of the National Housing and Town Planning Council, presided on both days, supported by Mr. H. R. Aldridge, the secretary of the National Council, and Mr. C. H. Eyles, the regional commissioner.

After the delegates had been welcomed by the Mayor (Alderman W. G. Wellman, J.P.), Mr. Aldridge dealt with the Increase of Rent and Mortgage Interest (Restrictions) Act, 1920, and called attention to the sub-section under which the sanitary authority might apply to the County Court, apart from any desire expressed on the part of the tenant, for an annulment of any increase of rent. Every local authority, he urged, should exercise their powers under this sub-section, and should deposit with the Judge a list of such properties. Neglect to do this might react on local authorities when compensation had to be considered. Landlords should be informed when their property had been included in a list deposited with the Judge. It was thought that if a true spirit was shown by owners there should be leniency.

The Labour Shortage

Discussions then took place on the assessment of rents of new houses, after which Mr. Aldridge referred to the great shortage of labour for the building of houses. He said that 800,000 men were employed in the building trade before the war, while now only 500,000 to 600,000 were available. In the near future a million and a quarter would be needed. Not 10 per cent. of the energy of the trade was actually engaged on houses.

The Commissioner said that Brighton had a shortage of ninety skilled labourers, and only one plumber could be found at the labour exchanges. Unless local authorities made drastic use of their powers for dealing with luxury building, the housing programme would be seriously impaired. If local authorities did not take action another authority would have to.

The labour question was again discussed at the second day's conference, which opened after the delegates had visited Moulscombe, where the Brighton Corporation is carrying out a housing scheme.

The Chairman said one of the most vital points was guaranteeing the employee against loss through "short time."

Mr. W. A. Gooding (Southwick) said that the forty-four-hour week emanated from the factories, where it was possible. It was impossible in the building trade. The better method was the old way of working longer hours in the summer, so as to make up for the shorter hours in the winter.

Alderman H. Carden (Brighton) said that better wages would have to be paid if more men were wanted. Men had gone out of this trade because it was so bad pecuniarily. The whole trouble was that everyone was trying to get houses too cheap. All the way through the Ministry of Health had been anxious to reduce the cost, and Councils' plans had come back, and they had to consider means of economising, such as putting in a cheaper sink, knocking a fireplace out, and using second-class timber. And then the tender for the second-quality dwelling always came out dearer than that for the better-class house a few months previously. Building had not been stopped, take the country as a whole, for lack of labour, but for lack of money and for the high rate of interest they had to pay. Give them cheaper money and pay more wages, and they would soon get the houses built.

The Regional Commissioner said that this country was to-day doing more to solve the housing problem than any other country, the United States included. Of the 38,000 houses to be provided in that region, of which 9,457 were for Sussex, 1,847 were in course of erection, and 140 were actually completed. Plans for 14,300 had been approved, and contracts entered into for 6,370. Their efforts must be considerably increased, and he pointed out that schemes should be carried out piecemeal without waiting for approval in their entirety. In the area 1,032 sites, representing 3,956 acres, had been submitted by local authorities, including 834 for Sussex.

In reply to Mr. Henry Aldridge, he said that in the case of cul-de-sac schemes a road 8ft. in width, with a turning point at the end, had been sanctioned.

Local Amenities

Mr. Aldrich alleged with regard to the Brighton housing scheme that the Ministry of Health had cut down the amenities by £20 or more, and yet the contractor had been allowed to retain his basic price; it was not reduced.

Mr. Wright (Deputy Commissioner) explained that any variations made would be duly considered.

Mr. Aldridge urged that no locality should be deprived of any amenities in its housing scheme on account of any local variation in cost. The larger local authorities, whose fighting weight was greater, were successful in securing this.

The Commissioner said that if local authorities looked upon any threatened amenity as essential, their views would receive every sympathy. If parlours had to be provided extra rent should be paid. If in rural districts non-parlour houses would house the families they should allow it.

Alderman Carden spoke of the Brighton slums as some of the worst in the country, and said there were at least 5,000 people living in terrible conditions and nothing would be done to clear these away unless the Government altered their policy. It was nonsense for the Chancellor of the Exchequer to say he could not raise the money; and to allege that he could not find £100,000,000 was playing with the question. A great many Councils feared that in 1927 a great deal more than a 1d. rate would fall upon them, but that was not his view. Until the Government told them to sign contracts for houses and guaranteed them the money there would be months and months of delay.

A resolution was unanimously adopted that the conference was of opinion that in cases of those local authorities with over £200,000 rateable value not being able to raise the amount required the Treasury should give their assistance.

Councillor E. J. Parker (Portslade) moved that "in the opinion of this Conf ence, owing to the great pressure on ho ing accommodation and the reluctance the public to take up Housing Bonds, Government should commandeer forthw enough large houses and mansions in country and billet in them all the ma families now living in overcrowded con tions, until all the houses are provided.

Alderman Carden seconded, though said he did not expect the resolution wo be passed.

Councillor Parker remarked that th were houses in Hove "with forty and f rooms occupied by families that d number as many as the fingers of hand."

Alderman Aldridge opposed the p ciple of the suggestion, saying it wo only add fuel to the flames of class w fare and discontent, and ruin respect the home life of the community.

Councillor Parker said the whole p was the reluctance of the public to find money for the houses.

The resolution was lost, and the con ence concluded with a vote of thank the Chairman and the Commissioner.

National Federation Mee ing at Newcastle

The half-yearly meeting of the Nati Federation of Building Trades Emplo has been held at Newcastle.

In the report of the Council the at tion of members was called to the ad able reports on apprentice training education issued by the Educational C mittee of the Industrial Council. Ov to the shortage in the supply of sk building trade labour it was a matte urgency for every employer to train full complement of apprentices in e branch of the building trade allow under the existing working rule ag ments. It would take years to make the existing deficit of some 300,000 me the industry. Labour unrest contin and the Council felt that the time come when the irregular actions of lab which were tolerated during the period, should be decisively put an end

In the course of discussion on ex wages, a matter on which Dr. Ad had refused to receive a deputa speakers deprecated the payment of w or bonuses over the standard rate of wa A deputation representative of the w of the building trade was appointe wait upon Dr. Addison.

Protest was made against the pro to introduce legislation to guarantee w men engaged on housing a full week's wet or fine, and payment by the wee stead of by the hour, as at present. solution was adopted protesting ag the proposal of the Ministry of He pointing out that such legislation w if passed, become effective upon bui work of all kinds, that the effect wou to render impossible the preparatio firm estimates for any out-of-door w would enormously increase the co building, already far too high, and in ably lead to further restrictions or dir tion of output.

The Conference agreed to instruct Administrative Committees of the va Federations to send in notices to draw from the National Concil Board scheme.

A report was submitted on the pro to form a National Wages and C

IMPORTANT TO ARCHITECTS

You can get ahead AT ONCE WITHOUT DELAY by adopting Reinforced Concrete on the Kahn System

Because we have a good stock just now of all sections of our reinforcements and a highly expert staff of designers

Therefore, write us to-day and we will explain what can be done with your building

The Kahn System of reinforcement is the most extensively used in the world :: ::

90% of modern multi-storey factories are being built to-day in Reinforced Concrete :: ::

THE
TRUSSED CONCRETE STEEL CO. LTD.
5-2 Truscon House, Cranley Gardens, South Kensington, S.W 7

Works: TRAFFORD PARK, MANCHESTER

H MUNOY

REDPATH BROWN & Co. Ltd.

CONSTRUCTIONAL ENGINEERS

WORKS AND STOCKYARDS

LONDON
Riverside Works,
East Greenwich S.E.

MANCHESTER
Trafford Park.

BIRMINGHAM
Office 47, Temple Row.

EDINBURGH
St. Andrew Steel Works.

NEWCASTLE-on-TYNE
Milburn House.

GLASGOW
Pinkston.
Office 19, Waterloo St.

London City Office :- 3, LAURENCE POUNTNEY HILL E.C.4

tions Council for the Building Trades. The president (Councillor Stephen Easton, Newcastle) said that representative builders of the country and representatives of the better-class operatives thought that the present sectional method of dealing with national matters was undesirable. At present it was open to any district to come to a decision with the operatives which would have the effect of deciding wages and conditions for the whole country. Instead of that national basis being dictated from small centres it should be dictated by responsible heads, both of employers and operatives, after consultation with their respective bodies. He moved the adoption of the recommendation as to the establishing of the Council.

Mr. W. H. Nicholls, Gloucester, said the operatives had declined to have an independent chairman, which was an essential part of the scheme.

Mr. Thomas Howarth, Rochdale, thought it would have been advisable to give the area movement a more extended trial.

The resolution was passed, with few dissentients.

Mr. T. Howarth, Rochdale, drew attention to the comparatively few apprentices coming into the building trade. He suggested the formation of a Builders' Welfare Committee. One of the objects would be to give lectures to youths leaving school with a view to taking up branches of the building trade.

Mr. E. J. Brown said he thought that the suggestion of the last speaker was a valuable one. In London the scheme had been worked with enormous good to the building trade. The idea was one which would commend itself to the building trade generally.

At the conclusion of the Conference Mr. . G. White, the general secretary, was presented with the gold Albert Medal of the Belgian Government for his work during the war.

Housing Standards.

At the North of England Regional Housing and Town Planning Conference for Northumberland, Cumberland, Westmorland, and Durham, held at Newcastle, Councillor Chapman, of Newcastle, moved a resolution urging the Ministry of Health to relax its restrictions so far as the standard of houses was concerned. He thought that a better type of house should be built by local authorities. They had begun to develop the Walker estate, but were far from satisfied with the type of houses there, many things having been cut out for the sake of economy. Thus the ceilings were too low and the passages too narrow. If this sort of thing went on there would be a reaction against municipal housing, for in ten or fifteen years these would only be glorified slums. It would be far better to do the job well, and let it be a monument to all time, for they had good estates here worthy of good houses.

Mr. Dodds urged that they must consider utility first and all the time.

Ald. Bartlett agreed that pressure was necessary, and strongly supported the proposed resolution, which was unanimously adopted in the following form:

"That this conference desires to enter a strong protest against the undue cutting-down of the standards of housing construction and design, and calls upon the first meeting of committees of the National Housing and Town Planning Council to make representations relative thereto to the Ministry of Health."

On the motion of Mr. Dodds, it was resolved to call upon the Ministry of Health to expend money on research work in connection with housing.

Competitions Open

Wakefield.

Cenotaph to the memory of the Fallen. Apply Town Clerk.

Liège.

Monument to commemorate the defence of Belgium against the German invader. One million francs has been subscribed for the project. Apply M. Léon Maréchal, Bureau des Beaux Arts, Hotel de Ville, Liège ,Belgium.

Weymouth.

War memorial of granite or marble on the esplanade at a cost not exceeding £1,500. Premiums £10 and £5. Apply Mr. F. Fernihough, Town Clerk, Municipal Offices, Weymouth. Closing date August 14.

Hamilton, Bermuda.

War memorial to be erected in front of the Public Buildings, Hamilton. Premiums £50 and £25. Apply Mr. E. A. McCallan, Acting Colonial Surveyor, Colonial Surveyor's Office, Hamilton. For full particulars see our issue of July 21. Closing date, August 31.

Earby.

The Earby War Memorial Committee invite designs in competition for the local war memorial, with lay-out of ground, at a cost not exceeding £750 memorial, £250 lay-out. Space to be provided on the memorial for about 200 names. A premium of twenty guineas will be paid for the selected design, such sum to be merged in the commission in the event of the author being engaged to carry out the design. Further particulars may be obtained on application to Mr. T. Petty, hon. secretary, Council Offices, Earby. Candidates are asked to forward with the design an estimate of the cost and a specification of materials to be used. Closing date August 21.

Hackney.

Monumental memorial in stone or marble, cost not to exceed £500. Premium twenty guineas. Apply Mr. Norman Scorgie, Town Hall, Mare Street, Hackney, E.8. Closing date September 1. Members of the Society of Architects are requested not to take part in this competition without first ascertaining from the society that the conditions have been approved by the council.

York Minster.

Memorial to officers and men of the K.O.Y.L.I. in York Minster. Cost not to exceed £2,500. Premiums: 1st, the commission, and £100 to be divided amongst four competitors. Assessors, Messrs. Walter Tapper, H. V. Lanchester, and Robert Atkinson. (For full particulars see our issue of July 28.) Drawings to 34 and 35, Bedford Square, W.C.1, by September 14.

Lille.

Extending and beautifying the city. Entrance fee, 300 francs. Available for premiums, 128,000 francs. Apply the Mayor. Competition closes October.

Competition Awards

Chatham.

The designs of Mr. W. Harding Thompson, A.R.I.B.A., of 65, Cheyne Walk, Chelsea, have been placed first in the competition for the lay-out of the Chatham housing scheme in the Post Barn area. Mr. Guy Dawber, V.P.R.I.B.A., was the assessor.

Great Northern Central Hospital, London.

The successful architects in the competition for the extension of the Great Northern Central Hospital, Holloway Road, London, are Messrs. H. Percy Adams, F.R.I.B.A., and Charles H. Holden, of 28, Woburn Place, Russell Square, W.C.

Law Report

Allegation of Bribery

Action by Manchester Society of Architects.

Allegations under the Prevention of Corruption Act, 1906, were made at Manchester City Police Court, against Percy A. Reece, partner in the firm of Reece and Wales, civil and mechanical engineers, of Spring Gardens, Manchester, who was summoned on the information and complaint of Mr. James Theodore Halliday, architect, of 41, John Dalton Street, a partner in the firm of Halliday, Paterson, and Agate, for having on March 11 last, in a letter addressed to Messrs. Halliday, Patterson, and Agate, unlawfully and corruptly offered to Messrs. Halliday a consideration or commission for showing favour to the firm of Reece and Wales in relation to their principals' business.

Mr. E. C. Burgis, who appeared in support of the information, said the defendant was a civil engineer, carrying on business in partnership in the city, and amongst other things his firm were agents for a concrete block-making machine. Complainant was a member of a firm of architects. Architects, said counsel, occupied a position of confidence and trust. They had to advise building owners as to the suitability of materials. The architects of Manchester took the view that an architect must be above suspicion, and that in forming any opinion as to what materials ought to be used his judgment and discretion ought to be absolutely unimpaired. On March 11 the defendant wrote a letter to the complainant in which the paragraph occurred:

"We should only be too pleased to cover you with a commission on business resulting from a good word from your good selves, as we are aware you have several large schemes in hand."

Counsel, proceeding, said in other words what the defendant wanted to do was to influence the mind of this firm. The matter was brought before the Society of Architects.

Mr. Jackson, defending, said even if there had been a technical offence it had been committed in ignorance and with no intention of doing anything wrong. The defendant was a young business man who had held a number of important positions as civil engineer, and had an excellent business record. He could not get into touch with all the builders, and he thought it best to approach the complainants, who were actually in close touch with builders generally. What it really amounted to was that the defendant was asking the complainants to be sub-agents, and was prepared to split his commission.

Counsel asked the Stipendiary, if he could, not to register a conviction against the defendant, to whom this case would be a grave warning for the rest of his life. He had no intention to break the law.

The Stipendiary Magistrate (Mr. E. Brierley) said there was no doubt an offence had been committed, and the defendant ought to have known better. He would be fined £5, with ten guineas costs.

The Week's News

(Concluded from page 118)

Llandudno Housing.

Twenty houses are to be built by the U.D.C. at a cost of £18,870.

Housing at St. Albans.

The City Council have adopted a scheme for the erection of 100 houses.

Dodworth Housing.

Plans have been passed by the Housing Commissioner for the erection of sixty-six houses at an estimated cost of £63,152.

New Town Hall for Islington.

To acquire a site for a new town hall, Islington Borough Council propose to borrow £30,000.

New Baths for Derby.

The Derby T.C. are considering the purchase of 3,560 square yards of land in East Street for £9,000 as a site for new public baths.

L.C.C and Housing.

The London County Council have purchased from the Guild of Leathersellers for £8,300 an estate of forty-seven and three-quarter acres for housing.

Huts for Edinburgh.

The Housing Committee have approved of sites for about forty huts to provide houses for families dispossessed under the city's reconstruction scheme.

Derby and Flats.

The Derby Housing Committee has decided against the building of flats. There are now eighty houses under the Derby housing scheme occupied and 124 in course of erection.

Easthampstead Housing.

The Ministry of Health have approved the purchase by the R.D.C. of a site for housing. A lay-out plan and plans for the erection of twenty-eight houses have been approved by the Divisional Commissioner.

London Mental Hospital.

The building of the London County Council's eleventh mental hospital, interrupted by the war, is to be resumed. The Council has approved a supplemental estimate of £450,000 to meet the increased cost.

Municipal Flats for Hackney.

The Borough Council have accepted the tender of Messrs. Stapleton and Sons, of Stoke Newington, at £15,498, for the erection of municipal flats. The tender has been accepted subject to its being based on wages and materials at current prices.

Higher Contracts for Housing.

Major Wood, Government Commissioner, mentioned at the Housing Conference of the Midland authorities at Nottingham that prices were showing a tendency to increase compared with six months ago. Tenders recently received did not compare favourably with those previously sent in.

Trade Unions' Ballot.

The Trades Union Ballot Bill, which provides that when a ballot of trade union members is taken on any question relating to strikes it should be conducted by independent officials and under a system of secrecy, has been considered by a Standing Committee of the House of Commons. A clause which provided that the composition of the ballot committee should be the President of the Board of Trade, the Registrar of Friendly Societies, and four trade union officials was rejected.

Holme Lacy.

Holme Lacy, a mansion rich in historical interest, with 2,700 acres of Herefordshire agricultural land is in the market. The Earl of Chesterfield, whose ancestors had occupied the Holme Lacy for over 600 years, sold the mansion to the late Sir Robert Lucas-Tooth in 1910.

Lack of Bricklayers at Manchester.

Dr. Macnamara, in a written reply to a question, states that for the immediate operations of the Manchester City Council ninety-six bricklayers are at present employed, and that 130 additional ones are required. The whole problem of labour in the building trade in connection with the housing programme is engaging the Government's serious attention.

Sanatorium for Warwick.

For the erection of a sanatorium at Hertford Hill, near Warwick, the Warwickshire and Coventry Joint Committee for Tuberculosis have accepted the tender of Messrs. G. F. Smith and Son, of Leamington, at £59,992. Mr. J. A. Watson, chairman of the Warwickshire War Pensions Committee, has generously offered the gift of several blocks at a cost of £25,000 to £27,000.

Famous Hall Offered to Manchester.

The Free Trade Hall, Manchester, built to commemorate the success of the Free Trade agitation over half a century ago, is being offered to the City Council for £90,000, and the town hall committee recommend acceptance of the offer. All the leading statesmen from the time of Cobden and Bright down to the present day have been heard from the platform of the Free Trade Hall. It has seating accommodation for over 3,000 people.

Hospital Extensions in London.

The grant of £15,500 from the surplus Red Cross funds allocated by King Edward's Hospital Fund to the Great Northern Hospital is for a nurses' home (one of the greatest needs of the institution), new kitchen, and other essential improvements. The scheme which the hospital has in view includes a new casualty department, a new out-patients' department, and additional wards, in order that the work of North London may be properly coped with.

Bradford and Direct Labour.

An agreement has been reached between the Bradford Corporation and the Bradford Building Trades Federation, who guarantee the whole of the labour in connection with the building of 600 houses by direct labour. The trades concerned are bricklayers, slaters, plasterers, masons, joiners, painters, builders' labourers, and woodcutting machinists. The arrangement provides for a guaranteed full working week for the workmen.

Housing Progress at Wallasey.

The Housing Commissioner has authorised the completion of fourteen houses; 60,754 square yards of land in Belvidere Road are being compulsorily acquired as a housing site, the houses in Mill Lane and Poulton Road are being proceeded with, more houses are being built by private enterprise, whilst work in connection with picture houses, the Y.M.C.A. gymnasium, and garages is being prohibited as being likely to delay the provision of housing accommodation.

Engineers and Wages.

Representatives of the engineering trade unions have held a conference in London as to the methods by which in future, when the Wages (Temporary Regulation) Act expires, disputes and questions of wages and hours, etc., may be regulated. The Amalgamated Engineering Union suggest that general wage advances should be dealt with nationally by direct negotiations between the employers and the unions, local adjustment to be considered locally under the present procedure of the York memorandum. The conference expressed indignation at the recent award of the Industrial Court (which found that the claim of the union had not been established), and decided to recommend to the Engineering and Shipbuilding Federation the desirability of a joint conference to decide on future action.

Educative Week-end Conferences.

A series of useful week-end conferences of employers and employed have been arranged by the Industrial League and Council. The latest of these conferences took place recently at the residence of Mr. E. J. P. Benn, C.B.E., Blunt House, Oxted, and others will follow, when Sir Samuel Waring, Mr. Hugo Hirst, and Mr. H. V. Roe will in turn act as hosts. The Industrial League and Council are determined, as far as it is able, to leave no excuse to any employer or any employee for not knowing and understanding the view of the other side. The simple mission of the League and Council is to bring the two parties together and promote discussion and intercourse. The Industrial League, whose offices are at 82, Victoria Street, S.W.1, is, we understand, prepared to accept offers from others who are willing to act as hosts for eight, ten, or a dozen men for a week-end meeting.

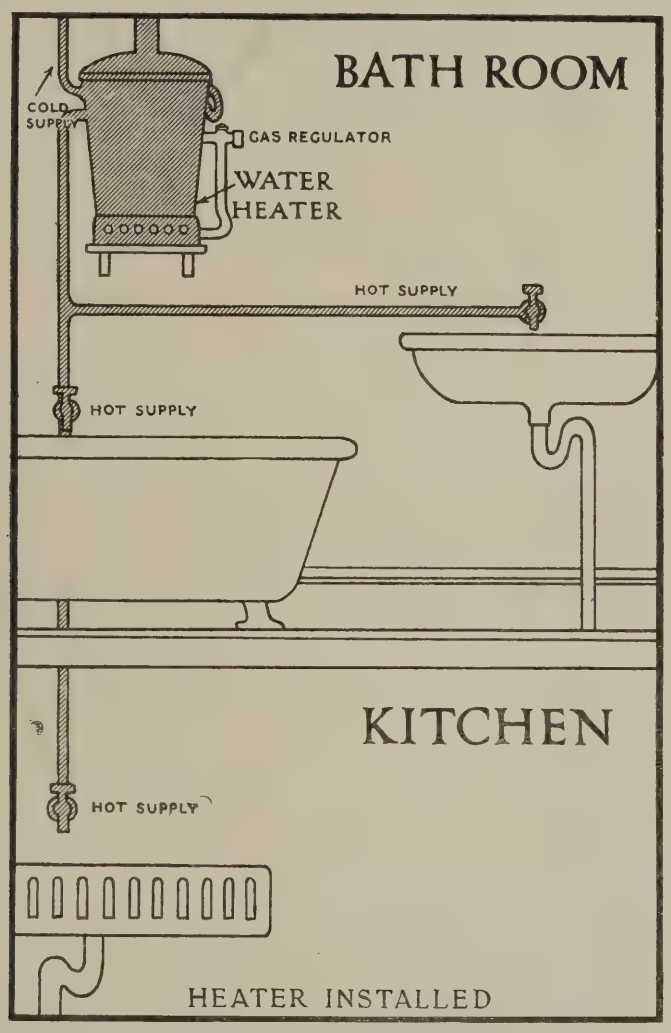
Manchester and Mezieres.

With regard to the adoption by Manchester of Mezieres, the Lord Mayor of Manchester has launched an appeal for £50,000. Of the 1,059 houses which Mezieres possessed before the war, 7[illegible] have been destroyed or severely damaged, 270 are in ruins, the hospital burnt down, the theatre destroyed, as well as the greater part of the buildings of the Town Hall, while the beautiful and historic church has been severely damaged. The town of Mezieres has already put up two groups of temporary dwellings, and a hundred more will be ready by next October. Fifty permanent houses will be taken in hand this year. It is at the same time intended to reconstruct the hospital. M. Braibant, Conseiller-Général for the Department of the Ardennes, states that if Manchester would construct a number of houses on the garden city plan, on sixty-two acres of land belonging to Mezieres, that garden city would have the name of Manchester. The houses would be divided by gardens and be in the most beautiful spot on the banks of the Meuse. It is proposed that 125 of such houses be erected, at a cost of about £400 each.

THE "EXPRESS" WATER HEATER

(Patent)

is a Self-Contained Water Heater, Cylinder and Feed Cistern.



The above illustration shows the Heater installed in Bath-room supplying hot water for all purposes.

THE "Express" simplifies the hot water problem—particularly in new houses—for the reason that it contains the whole system in the one cylinder. The small boiler is placed immediately under the cylinder. By this means circulation pipes are entirely dispensed with and perfect circulation is obtained, thus effecting a great saving in installation costs, also in gas consumption. The ball valve works in cold water. All interior joints are brazed, and clearing the water-ways is made easy.

"Express" Heater is guaranteed to raise from cold to 160° in 20 minutes and give 20 gallons every 15 minutes, temperature 120°. Gas consumption (full on) 2 feet per minute. Pilot 10 feet per hour.

Automatic gas valve regulates gas consumption.

As supplied to Acton Town Council, etc., etc.

MARTIN ENGINEERING CO., LTD.
49, Theobald's Road, London, W.C.1

Highest Awards Bristol 1919, Glasgow 1919.

CONTENTS.

Edited by PROFESSOR A. E. RICHARDSON, F.R.I.B.A.

Notes and Comments: Labour and Housing; The London University Site; Lincoln's Pedestal; A Bit of Dickens' London; Ancient Buildings; Negligence at the Crystal Palace; Westminster Abbey; The Professional Code; Sidelights on a Great Artist; "Direct Labour" 143 and 144

Architectural Causerie: On Shingles. By Aero 145

The Week's News 146, 168

Nebraska State Capitol Competition 147

King Edward VII. Sanatorium, North Wales 151

Publications Received 152

Professional Conduct and Practice of Architects 152

Book Notices: Furniture for Small Houses; Building in an Encyclopædia 155

R.I.B.A. Final: Alternative Problems in Design 156

Law Report: Builder's Claim for Work Done 156

Recent Excavator Practice. By F. H. Livens and W. Barnes 161

The National Federation Meeting at Newcastle 165

The Standard Metal Window ... 166

Royal Institute of British Architects: Council Meeting 167

Enquiries Answered: Colouring Cement; Glazed Tile Slabs; Pugin and the Houses of Parliament ... 167

R.I.B.A. Fees and Subscriptions Increased 167

Coming Events 168

Current Prices of Materials xvii

Complete List of Contracts Open xx, xxii

ILLUSTRATIONS:

Joseph Louis Duc 141

Architecture of the Italian Renaissance. 17.—Detail of Window Treatment, Palazzo Municipale, Brescia. Palladio, Architect 142

Nebraska State Capitol Competition: Winning Design. By Bertram G. Goodhue, Architect 147, 148

Current Architecture. 35.—King Edward VII. Memorial Sanatorium, Llangwyfan, near Denbigh, North Wales. T. Taliesin Rees, F.R.I.B.A. Block Plan and General View

King Edward VII. Memorial Sanatorium, North Wales. The Dining Hall; View in one of the Wards; 151. Medical Superintendent's House ...

Current Architecture. 36.—King Edward VII. Sanatorium, North Wales. T. Taliesin Rees, F.R.I.B.A., Architect. Administrative Block ... ..

A Chair and Toilet Table ...

Architects' Working Drawings. 12.—Typical Flats to be Erected by Dumbarton County Council. Joseph Weekes Licentiate R.I.B.A., Architect 15

The Modern Steam-Crane Navvy and Diagram Showing Complete Cycle of Operations ..

Current Architecture. 37.—King Edward VII. Memorial Sanatorium, Llangwyfan, nea Denbigh, North Wales. T Taliesin Rees, F.R.I.B.A Architect. Nursing Block an Ambulant Block ... .

SPEEDING-UP.

SPEEDING-UP is attaining the end desired in the shortest possible time. If you need material and service in any constructional work—then an enquiry to us, letter, 'phone or wire, is the first step to speedy satisfaction of your needs. We have seen to it that this promise can be fulfilled.

Stocks of
British Standard Sections in Joists, Channels, Angles, Tees, Flats, etc.

DAWNAY DEFINITIONS—2.

ARCHIBALD D. DAWNAY &

Telephones: Battersea, 1094. (3 lines).

Steelworks Road, Battersea, S.W.11

Telegr "Dawnay, B Lond

Telephone: Cardiff, 2557

And at East Moors, Cardiff.

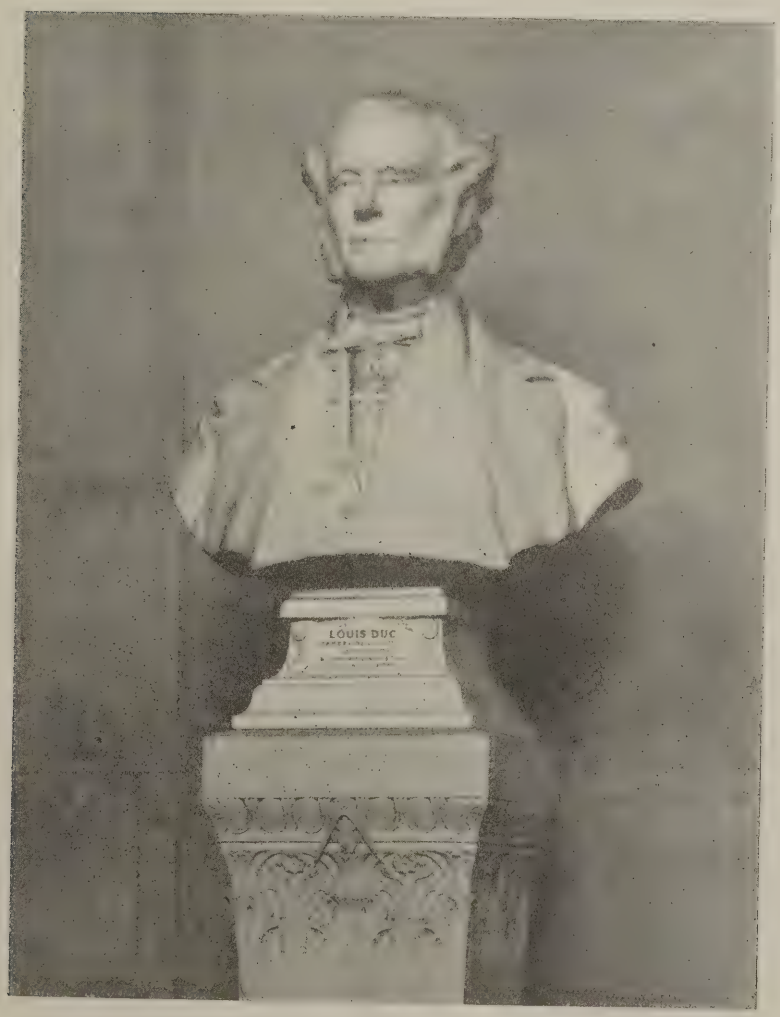
Telegr "Dawnay,

Wednesday, August 11, 1920

Volume LII. No. 1336

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



JOSEPH LOUIS DUC

Born at the beginning of the nineteenth century, Joseph Louis Duc received his early education at the Collège Bourbon, Paris. He afterwards entered the atelier of an architect named Chatillon. Admitted a student of the Ecole des Beaux-Arts, he won the Grand Prix de Rome for a "Projet d'Hotel de Ville" for Paris in 1825. Duc, with a few others, was largely responsible for the development of the style Néo-Grec. His greatest work is the remodelling of the Palais de Justice, undertaken during the reign of Louis Philippe.

27-29 Tothill Street, Westminster, S.W.1.

Architecture of the Italian Renaissance. 17.—Detail of Window treatmen Palazzo Municipale, Brescia

Palladio, Architect

Though very fine in its proportions and general composition, this window from the Palazzo Municipale displays all the over-elaboration of detail that marked the decline of the Italian Renaissance. Palladio, its author, was born in 1518 and died in 1580.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.
Wednesday, August 11, 1920
Volume LII. No. 1336

Notes and Comments

Labour and Housing

THE Government's scheme for expediting the building of houses was explained last week to representatives of the Federated Builders and the Federated Operatives. Briefly stated, ne proposal is: the employment of unskilled and par-ally skilled labour, and the adoption of piece-work or ayment by results. Labour is also asked to give an ssurance that there shall be no suspension or stoppage f work. To compensate organised labour for these emporary concessions, it is proposed that there shall be guarantee of employment for five years, and, when ad weather rules, a guaranteed proportional week with ay, but not a full week's pay—the exact figure not aving as yet been determined. At the time of writing e attitude of the Master Builders towards these new nd, in a sense, revolutionary proposals has not been iblicly expressed; but the operatives have made no tempt to conceal their intense dislike for some of them. r. W. Bradshaw, their secretary, in a statement to the ress says: "There is not much objection on the score the guaranteed period of employment and the guar-nteed weekly wage, but it is the price we are asked to y for the guarantees—namely, dilution and payment results—on which feeling is strong, and to which ere will be opposition. . . . So far as the Govern-ent stipulation that there shall be no strikes is con-rned, we are against stoppages of work as a federation they can possibly be avoided." This leaves us exactly here we were before. It is useless for labour to pect to have everything its own way. The case is sentially one for concessions on both sides. Labour ll benefit more than any other section of the commu-y by the building of the houses which are so urgently nted, and with a view to the more rapid provision of ich these proposals have been drawn up. Dilution is rely a temporary expedient to meet the housing emer-ncy; labour is not called upon to sacrifice perma-ntly any of its cherished rights. By taking up a stile attitude to the Government scheme, which, dging by what is known of it, seems to be a remark-ly favourable one, labour is merely spiting itself.

The London University Site

The latest contribution to the controversy which has sen around the question of a site for London Univer-y is a report on the Government's Bloomsbury offer, Mr. Frank Hunt, Valuer to the London County uncil. Mr. Hunt deals first with the estimated cost new buildings for the University and King's College, ondly with the value of the King's College site in the and, which the Government proposes to take over if Bloomsbury offer is accepted, and, thirdly, with estimated value of the Bloomsbury site itself. The ults of his calculations make very interesting reading, l provide food for reflection. He estimates that the cost of a new building, providing adequate accommodation for the University and King's College, could not be less than £3,000,000, and this, in view of the present high cost of building, would seem to be a not unreasonable estimate. So much for expenditure on new construction. The value to the Government of the King's College site in the Strand he puts down at from £800,000 to £1,000,000, and the value of the Bloomsbury site at from £450,000 to £500,000. Taking the lowest figures in each case, it would seem on this estimate that the Government stand to make a nice little profit on the deal of somewhere about £350,000. Compensating generosity this! But we cannot believe that the Government in making their offer had any covert idea of doing a smart piece of business at the expense of London University. In the event of Mr. Hunt's forecast of values being accurate, the Government would, no doubt, have great pleasure in presenting the University authorities with the surplus, £350,000—to be devoted to the cost of new buildings. It would then remain for London to find the balance of £2,650,000. Such a sum should make no serious drain upon the financial resources of the wealthiest city in the world. Here is a splendid opportunity for our new millionaires.

Lincoln's Pedestal

Looking at the recently-unveiled statue of Abraham Lincoln in Parliament Square, anyone who is familiar with the original in Chicago cannot help being struck by a peculiar difference between the two monuments. This difference, of course, has nothing to do with the statues themselves, which are alike in every respect. Where our own monument differs from its prototype is in the base upon which it stands, and in its lack of the architectural setting of the late Stanford White. Lincoln in Parliament Square stands upon a base that is quite twice the height of the one in Chicago, and he is deprived of his wide platform with its surrounding parapet and approach of steps. No doubt a high pedestal was deemed necessary in order that the statue should conform with the general height of the effigies already existing in Parliament Square; but we cannot agree that this is a good and sufficient reason for throwing the Lincoln monument out of scale. The present base is obviously much too high for the statue it supports, the effect of disproportion being further exaggerated by the great depth of the base, due to its having to accommodate a large chair in addition to the figure itself. In the very limited area of the Canning enclosure it would of course be quite impossible to reproduce Stanford White's architectural setting, but there is no reason why we should not have his base, which is perfectly proportioned to Saint-Gaudens's noble figure. Fortunately, the present base is only temporary. We suggest that its height should be considerably reduced when the time comes to build it of permanent materials.

A Bit of Dickens's London

Not Amurath an Amurath succeeds, and when a portion of old London disappears, it is hardly, if ever, replaced by its like. The recent talk about transforming the Foundling Hospital site has been followed by a statement that the Tichborne estate, which adjoins it on the south-east, is to be sold. The sale will involve most of the land between Guilford-street and Gray's Inn. It is a part of Bloomsbury, rich in historical and literary associations—a district of fine old houses that have become solicitors' offices, or *en pensions*, without suffering much alteration in their outward appearance. Few shops are here, and if—as is probable—the row of narrow houses along the west side of Gray's Inn Road are replaced by handsome shopping premises, it will destroy the character of what is one of the gloomiest, noisiest, and yet most interesting thoroughfares in London. Two of the other streets included (Bedford Row—whose eastern side is threatened—and Great James Street) contain many beautiful houses, with an air of saddened dignity, but some of the other less distinctive streets have fallen on dubious times. It must be admitted that the whole district is now faded, and was manifestly built to serve what was the convenience of a bygone generation; we must smother our sentimental attachment and face the coming of the new.

Ancient Buildings

A strong committee has been appointed by the First Commissioner of Works to consider widening the powers of the State with regard to ancient buildings. As we remarked in a note a fortnight ago upon the passing of some of the old abbeys into the care of the nation, it is only right and proper that all buildings and monuments and relics of public interest should be a public trust. Private owners may argue that this would be an impertinent over-lording of what they regard as their own property. Tenants and occupiers may abound in goodwill and reverent conservatism, but they cannot always have expert knowledge of the technicalities of architecture. Dilapidations are not foreseen, and sometimes go too far before repairs are put in hand, and when—as in the case of Westminster Abbey—it has become necessary to replace old stones with new, the community has an obvious right to prevent a restoration tragedy.

Negligence at the Crystal Palace

A strong word of protest must be uttered against the manner in which the Imperial War Museum pictures are displayed at the Crystal Palace. During a recent visit we noticed that there is no guard-rail of any kind in front of the canvases, the great majority of which are unglazed. Hence there is nothing whatsoever to protect them from damage. If the public were properly regardful of national art possessions this would not matter very greatly; but unfortunately a becoming respect for art is not one of the distinguishing traits of the British public, who, consequently, must be protected against themselves. It fills one with a sense of utter despair to see, as we saw recently, these great canvases, mostly by highly distinguished artists, laid open to mutilation by the thoughtless crowd. In one instance we observed a burly member of the proletariat in the act of reclining gracefully against a fine canvas, which bulged in perilously towards the wall, the while his offspring amused himself by scratching off as much paint as he could with his finger nails. Surely in no other country but England would such a thing be possible. No other nation, we imagine (looking at the matter from the material point of view alone), would be content to see the things which it has bought at great cost deliberately placed in such a position as to invite, even to provoke, destruction. But beyond that there is the aspect of the matter. The criminally careless manner which most of these pictures is displayed is a natio disgrace and an affront to the artists themselves. can only hope that prompt action will be taken to prot and preserve these art records of the Great War bef they become irreparably mutilated.

Westminster Abbey

The first £100,000 of the £250,000 required for restoration of the Abbey has been forthcoming, a much of the work of repair is already in hand. Scaffo ing is being erected between the two western towe and as soon as this task—itself a difficult and com cated one—is completed the work of removing decayed stonework will be proceeded with. For present only the most vitally necessary work is be undertaken, but when more money is subscribed operations will be extended according to the urge of each part.

The Professional Code

In drawing up a "Code of Professional Conduct Practice," the R.I.B.A. have produced a document t defines very clearly the functions and manner of cond of the responsible and self-respecting architect. Code will, we think, prove to be of inestimable va to practising architects of all ages, to whom it sta in the relation of "guide, philosopher, and friend," the existence of such a document must have the cert effect of enhancing the status and prestige of the p fession as a whole. Mr. Simpson, on whose suggest the Code has been drawn up, has rendered an excell service to architecture.

Sidelights on a Great Artist

Mr. G. Gilbert Scott, who was a pupil of the late Temple Moore, has some personal reminiscences of old master in the current issue of the R.I.B.A. Jour They reveal the lately deceased architect as a mar extremely shy disposition. He always worked at home at Hampstead, and, as Mr. Scott very truly sa was not known, even by sight, to very many of admirers. He was wholly absorbed by and devote his art, and had no hobby of any kind outside his w Mr. Scott records the following amusing little incid which seems to be characteristic of Temple Moo extreme bashfulness in dealing with others: "I working at home in my spare time on the Liver Cathedral competition drawings," he says, "and consequence was often late in arriving at the office early in leaving. Temple Moore endured my irreg hours for weeks before venturing on a reprimand, when he finally summoned up his courage to remind that office hours were from 10 to 5, he did so not verb but by sending me a postcard to that effect." delightfully diffident! Small wonder that with sensitiveness of soul Temple Moore was so finely acc plished an artist.

"Direct Labour"

The operations of the Office of Works are exten rapidly, and lately there has been quite a demand local authorities for their services. Many hou schemes have been taken in hand by them, an nearly all cases the method of building is by "d labour," the Office of Works providing the mater architects, etc., and employing the "Guild system labour management where desired. So far, it is st their experience of "direct labour" has been ra remarkable, showing the astonishing saving of £2 £300 per house over contractors' prices.

Architectural Causerie: On Shingles

AT one time, when our forebears exercised considerable ingenuity in the selection of appropriate material to meet exceptional conditions, shides or shingles formed out of uartered oaken boards were very much favoured. 'o-day we turn in vain to the advertisement pages for nformation regarding this commodity, although the ımerican professional papers usually contain at least ne manufacturer's notice proclaiming the merits of ıingles as a roof covering. In the eighteenth century ıingles were formed of small pieces of quartered oak ıwn to a certain scantling, cleft to about an inch thick t one end, and made like wedges from four to five ıches broad and from nine to twelve inches long. The ıides or shingles were used to face the walls of wooden ouses as well as to cover the small steeples of churches hen difficulty was experienced in procuring tiles or ates.

* * *

A few architects profess infinite faith in the artistic ıarm of shingles, but it is rare to find them used xtensively. As the old books state, "This kind of overing is very changeable, and especially useful in overing the roofs of churches and pyramidal steeples. evertheless, where tiles are scarce, and houses need to e lightly covered, shingles are to be preferred before ıatch; and if they are made of good oak and cleft out -not sawed—and then well seasoned in the water and ın, they become a sure, light, and durable covering."

* * *

What a variety of small buildings could be treated ith a shingle finish, ranging from the bungalow to the ırn, from the garden summer-house to the dovecote, ıd what variety could be imparted to many a bell turret / the judicious use of this material! We first cover ır balloon framing with ordinary boarding, for the ıingles must have a secure backing; this being done, e shingles are fastened to the boards with nails to form ourses at a gauge to be determined from three and a ılf to four inches measured from under the tail of each ourse. The old rule used to be three shingles in ight to the length of one, so that if the shingles are elve inches long they are laid to a four-inch gauge.

* * *

Every care is taken to secure the breaking of the int or bond; the perpends are not strictly observed. ometimes the shingles break joint an inch and a half or o inches according to the breadth of the shingles; for ey are not all exactly of a size, especially if cleft. om this it will be observed that the resultant effect is oductive of extreme variety of texture. To cover a eple with shingles is often troublesome, and high ices are charged. Frequently it is found possible, ıen old buildings covered with shingles are being paired, to hew afresh the old shingles and cut off the gged lower ends. For estimating it is usual to allow ıe hundred shingles to about a square of 100 superial feet.

* * *

In the West of England we encounter stone shides or ngles in the form of slates secured to the vertical faces of houses. There is one house in Exeter—to precise, Exe Island—where the slate shingles are aped and arranged to exquisite patterning, and we ıst not forget the slate hanging of Ashburton and oreton Hampstead. From a study of Roman antiqui- s in this country evidence is forthcoming that the mans used the scandulæ for the finishing of villas. e also gather that shingles from Bramshaw in the New rest were used at Salisbury Cathedral. We have ımples at Aldenham and St. Albans in Hertfordshire, and many a carpenter in Essex had recourse to shingles when commissioned to build a bell turret on the roof of some ancient church. One architect opines that some of the copings to the buttresses at Lincoln are cut in the imitation of shingles, a feature reproduced at Rye Church in Sussex, which in turn may have been influenced by similar work at Fécamp, in France.

* * *

During the fifteenth and sixteenth centuries shingles were very much in demand on the Continent. They were dressed and formed into shapes to cover the external work of timber houses, the triangular spaces of gables, and for roofing. As the train passes through the rich fields of Normandy the traveller accustomed to notice small things can discern the shides on the bell turrets, on the roofs of windmills, and even protecting some old farmhouses. In the seventeenth century slate appears to have superseded the wooden covering.

* * *

If oak can be procured shingles form the best covering for all small buildings; such as temples in the garden and outhouses; indeed, they are preferable in every way to thatch. We are told that if they are made of winter felled oak they will last for fifty years; after two or three years they assume a silvery-grey tone. They are cooler for cattle than tile or slate; they are extremely light, and do not call for skilled craftsmanship. Shingles can be preserved from rot with slaked lime put on once a year —a tip worth recording.

* * *

Woods other than oak can be used for shingling. Tulip wood, ash, cedar, cupressus, and pine, the latter being a feature in Sweden. Our Canadian friends have a special liking for shingles. There is plenty of Canadian oak, and shides are cleft in enormous quantities. They are cut with circular saws, and produced by thousands daily. We cannot imagine the Canadian architect in Edmonton, Saskatoon, or Medicine Hat ordering Broseley tiles when he can obtain sound shingles warranted to turn a silver-grey. Shingling is preferable to weatherboarding owing to the method described, a few paragraphs back, of breaking joint, and it is quite as durable.

* * *

From the 'fifties to the 'sixties, and even to the 'eighties, in spite of American inventions for the quick manufacture of shingles, they were not readily obtainable. As a result, all sorts of artificial coverings were invented, including a type of slating for use in the West Indies to roof the sugar refineries. One compound consisted of coarse paper dipped in boiling tar, nailed on boards, and painted with pitch, powdered coal, chalk, or brickdust. This form of material gave rise to a zinco shingle, much to the disgust of the adherents of Ruskin. Even to-day you cannot pick up an American paper without encountering a notice regarding the merits of "asfalt" shingling, or some kindred abomination.

* * *

Shingling for a variety of minor buildings and architectural features does not belong to things obsolete or obsolescent; it is a real factor, and, treated with sympathy, offers advantages patent to those who know the benefit of avoiding catalogue material. We must not expect to find this particular form of skin allowed in big cities or towns, but many old timber spires, bell turrets, and country cottages await the tender care of the man with ideas. Shingling properly handled by a good physician can never become a fatal disease.

AERO.

The Week's News

Mr. Frank Matcham's Estate

Mr. Frank Matcham, of 9, Warwick Court, Holborn, W.C., the well-known theatrical architect, left £86,389.

Robinson Crusoe's Island

The Chilian Government is considering creating a national park and tourist resort on the island of Juan Fernandez, and the plans of modern hotels and other buildings are under discussion.

Liverpool Architect's Fortune

Mr. Edmund Kirby, of Beresford Road, Oxton, Birkenhead, and of Liverpool, architect, who had been responsible for several Roman Catholic churches and schools in the diocese, left £40,821.

Mr. Arthur Blomfield's Daughter Killed

We regret to announce that Miss Diana Blomfield, nineteen, daughter of Mr. Arthur Blomfield, M.A. Cantab, F.R.I.B.A., has been killed. Miss Blomfield, who was staying at Sunningdale Station Hotel, Ascot, was thrown from her horse and fell under a three-ton lorry.

Islington Town Hall Scheme

The Islington Borough Council have instructed their architect to prepare a "lay-out" plan showing the possibilities of the site, recently acquired, in Tyndale Place, Upper Street, for a new town hall. On the site, which comprises some 136,000 square feet, are a number of residential properties. The Parliamentary Committee of the Council have considered the steps to be taken to provide accommodation for persons dishoused.

A Famous London Estate

The estate of Sir Joseph Tichborne, which is to be sold, comprises nearly five hundred houses and shops and several licensed premises, including the First Avenue Hotel. The greater part of the land was green fields until the latter part of the eighteenth century. Many of the present buildings are rich in panelled rooms and fine staircases. Abernethy, the great surgeon, was born in Bedford Row, and Addington, Viscount Sidmouth, was born there. Charles Dickens lived in Doughty Street, and the house bears a plate in commemoration of the fact.

R.I.B.A. Model Form of Contract

The Form of Agreement and Schedule of Conditions for Building Contracts, which with some slight modification has been in use since 1903, has been revised by a Committee of the Institute with the assistance of their legal advisers, and the revised document, entitled "Model Form of Agreement and Schedule of Conditions for Building Contracts," is now published and on sale at the R.I.B.A. at the price of 1s. 6d. per copy. This revision has been drawn up to meet modern conditions and as a model to be submitted to clients' solicitors. The form will be known by its short title, "The Model Form of Contract."

Duchy of Cornwall Estate

The Council of His Royal Highness the Prince of Wales has decided to sell a portion of his South London estate at Kennington. The sale will embrace the whole of the properties on the north side of White Hart Street, including the large island site of 6¾ acres bounded by Cottington Street, Kennington Park Road, White Hart Street and Lower Kennington Lane, and the whole of the Regency Square, also an area of about 2½ acres adjoining, with frontages to Cottington Street, Opal Street, Lower Kennington Lane, and Kennington Park Road, the whole covering a total area of about 9¼ acres, and all freehold. The greater portion of the property is cleared and immediately available for building, wh the remainder, with only one or two exceptions, is let short tenancies. The Duchy has during the war tra formed a large area of this district, having erected model lines a great number of houses for the workin classes.

Building Restrictions

The Federation of British Industries has, at the in tation of the R.I.B.A., appointed two representatives serve on a committee which has been set up to consi the effect upon the building industry and upon busin generally of the restrictions on building which are be enforced by local authorities under powers granted them in recent housing legislation.

Housing Progress

New housing schemes submitted to the Ministry Health during the week ended July 31 numbered si nine, bringing the total number submitted to 10,8 comprising about 72,500 acres. The schemes appro now number 7,434, and comprise about 52,500 ac Seventy-two lay-out schemes were submitted and fi three approved, bringing the total number of lay- submitted to 5,484, and the number approved to 4,8 House plans, representing 3,294 houses, were submi and plans for 2,480 houses approved. The total nun of houses represented in all the plans now submitte 242,549, and in the plans approved 228,422. Du the week tenders were submitted for 3,097 hou Tenders for 3,047 were approved, bringing the t number of houses in tenders submitted to 153,282, in tenders approved to 135,358. Contracts have signed for 81,015 houses.

Dilution in the Building Trade

The Government's plans to accelerate and speed the building of houses were explained to representa of the Master Builders' Federation and the Nati Federation of Building Trade Operatives at a co ence at the Treasury on Friday last. Sir Robert H (President of the Board of Trade), presided, and Addison (Minister of Health) and Dr. Macna (Minister of Labour) were present. The conference private. No official statement was issued on beha the Government, but it was stated that proposals been made by the Government with a view to augm ing the supply of labour for housing and increased put, and that these would be considered at a confe of the Building Trades Industrial Parliament, repre ing employers and operatives, which meets at the M try of Labour to-morrow (Thursday). A sp committee will probably be set up to investigate scheme and report to the respective organisatio masters and men. It is understood that the Govern placed before the conference a scheme of dilutio taking in unskilled and partially skilled labour, and ticularly ex-Service men, and also the adoption of work, or payment by results. They also asked f assurance that there should be no suspension or page of labour. In return they proposed a guaran employment for five years, and a guaranteed pr tional week with pay for bad weather, of anything twenty-five to forty hours, but not a full week's antee. The details in regard to the number of guaranteed hours have not been finally worked ou it is not suggested that the full weekly wage sh guaranteed. There are possibilities of negotiatio a compromise with satisfactory adjustments c period to be guaranteed. Several of the opera representatives spoke strongly against dilution piecework.

(Continued on page 168.)

Nebraska State Capitol Competition

ONE of the most important competitions recently held in the United States—that for the Nebraska State Capitol—has just been decided, Mr. Bertram G. Goodhue being the uccessful architect. In adopting a competition as the est means of selecting an architect, the Commission ollowed what it believed to be the best custom, and in etail was guided by the usage of the American Institute f Architects. The Commission appointed Mr. Thomas R. Kimball, architect, of Omaha, Nebraska, as professional adviser, and conducted the preliminary stage f the competition under his guidance.

As to plan, scope, style, type or material, the Commission offered no suggestion. Even in the matter of radition it was clearly the desire that each competitor hould feel free to express what was in his heart, unmindful of what had been inherited in this regard, illing even that the legacies of the masters should uide and restrain, rather than fetter.

While the Commission was very anxious not to handicap the competitors, or to limit the possibilities, it as nevertheless quite clear on much that it sought to ealise in the final result, and was certain to be disppointed should the capitol finally erected not prove be: First—A practical working home for the governmental machinery of the State; adequate not only r present needs, but with provision made or anticiated for development and growth for a century to me. Secondly—An inspiring monument worthy of the State for which it stands; a thing of beauty so conceived and fashioned as properly to record and exploit our civilisation, aspirations, and patriotism, past, present, and future; intelligently designed, durably and conscientiously built, and of worthy materials; and all beautifully and fittingly set, surrounded, embellished and adequately furnished. Thirdly—The whole accomplished without friction, scandal, extravagance, or waste—a work calculated to inspire pride in every Nebraskan.

Should a separate housing be suggested for some of the large and growing though less conspicuous departments, it was pointed out that the monumental or more distinguished group or groups should still include in addition to the legislative halls, supreme court and library, the offices and quarters for all the elective officials of the State, and a war memorial room. However, the supreme court, state library, and attorney general's office might function perfectly as an independent unit. It was desired that each competitor should study the requirements of State governments in general and of Nebraska in particular to enable him to offer a solution based on his original research and understanding of the whole problem; particularly was this desirable in the groupings of important departments with relation to each other, and of accessory elements with relation to the important units with which they are intended to function.

Here, however, competitors were reminded that in

NEBRASKA STATE CAPITOL COMPETITION: DETAIL OF WINNING DESIGN. BERTRAM G. GOODHUE, ARCHITECT.

their solutions they were not asked to make working drawings or even sketches for any purpose other than *to aid in the selection of an architect*, and that the study of the broad problem was far more important at that time than striving for exact disposition of minor details.

The requirements of the offices and departments for which provision was to be made in the new state capitol were laid down by the Commission as follows:

Senate Chamber (thirty-three senators). For the senate there should be provided about twelve committee rooms with proper dependencies, and reasonable space for visitors.

House of Representatives (one hundred members). About twelve committee rooms with proper dependencies should be provided, and reasonable space for visitors.

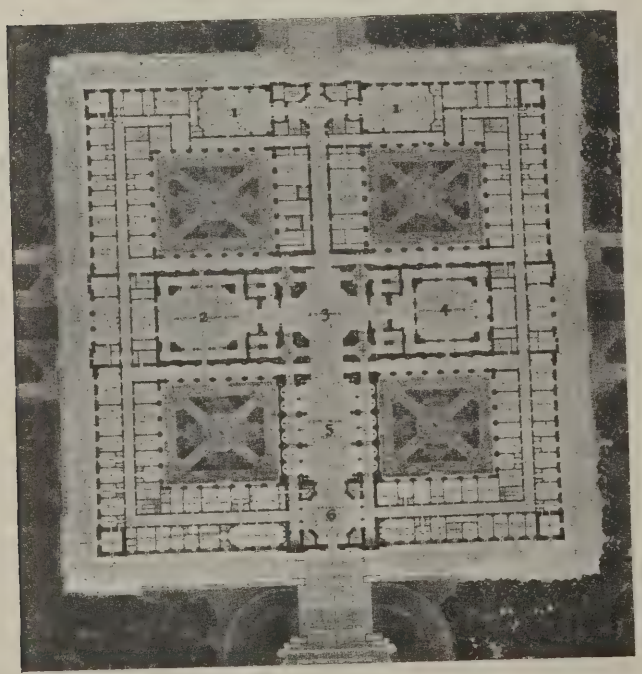
Legislative References. For this bureau, which functions only while the legislature is in session, there should be provided at least three rooms—reading room, reference library, and stenographer's room.

Supreme Court (seven judges and three commissioners). For the supreme court there should be provided two court rooms, two consultation rooms, ten judge's rooms, with stenographer's rooms attached, one lawyer's retiring room, all with proper dependencies; one clerk's room to function with main court room and to accommodate clerk, deputy clerk, journal clerk, opinion clerk, and stenographer; an adjoining bookkeeper's room, and receiving and storing room for briefs, blanks, etc; a connecting vault and two reporter's rooms adjacent to state library.

State Library (in same building with supreme court). A law library of 80,000 volumes, increasing at the rate of 2,000 per year (400 feet of shelving added per year). The state library should have an adequate reading room with separate rooms for receiving and forwarding, cataloguing, preparation for binding, and correspondence, with five or six small private rooms for dictation, and a stack room with adequate ultimate shelving capacity.

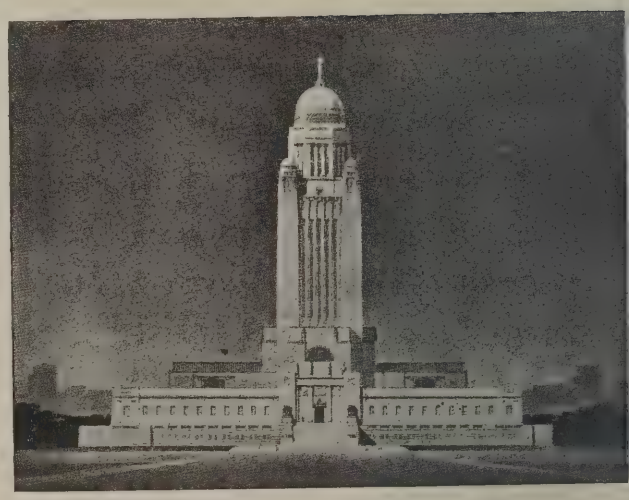
In addition to the above requirements, about eighty thousand square feet of floor space appears to be advisable.

Writing before the result of this competition was



1. Court Rooms; 2. House of Representatives; 3. Rotunda; 4. Senate Chamber; 5. Memorial Hall; 6. Entrance Hall.

NEBRASKA STATE CAPITOL COMPETITION: PLAN OF WINNING DESIGN.



NEBRASKA STATE CAPITOL COMPETITION: WINNING DESIG
BERTRAM G. GOODHUE, ARCHITECT.

known, a contributor to the "Journal of the Americ Institute of Architects" comments as follows:

"Instead of surrounding this competition with limi tions based upon a predetermined concept of solution of the problem, with inhibitions such as m arise out of the psychological reactions to the kno predilections of a known jury, with restrictions impos in the nature of costs and cubage, as supposed sa guards whereby a daring and unjustifiable extra gance may not win over a patient calculation based u reasonableness, this competition throws overboard ev possible limitation, inhibition, or restriction, except th which a sportsman sets up for himself when he co petes with a fellow sportsman.

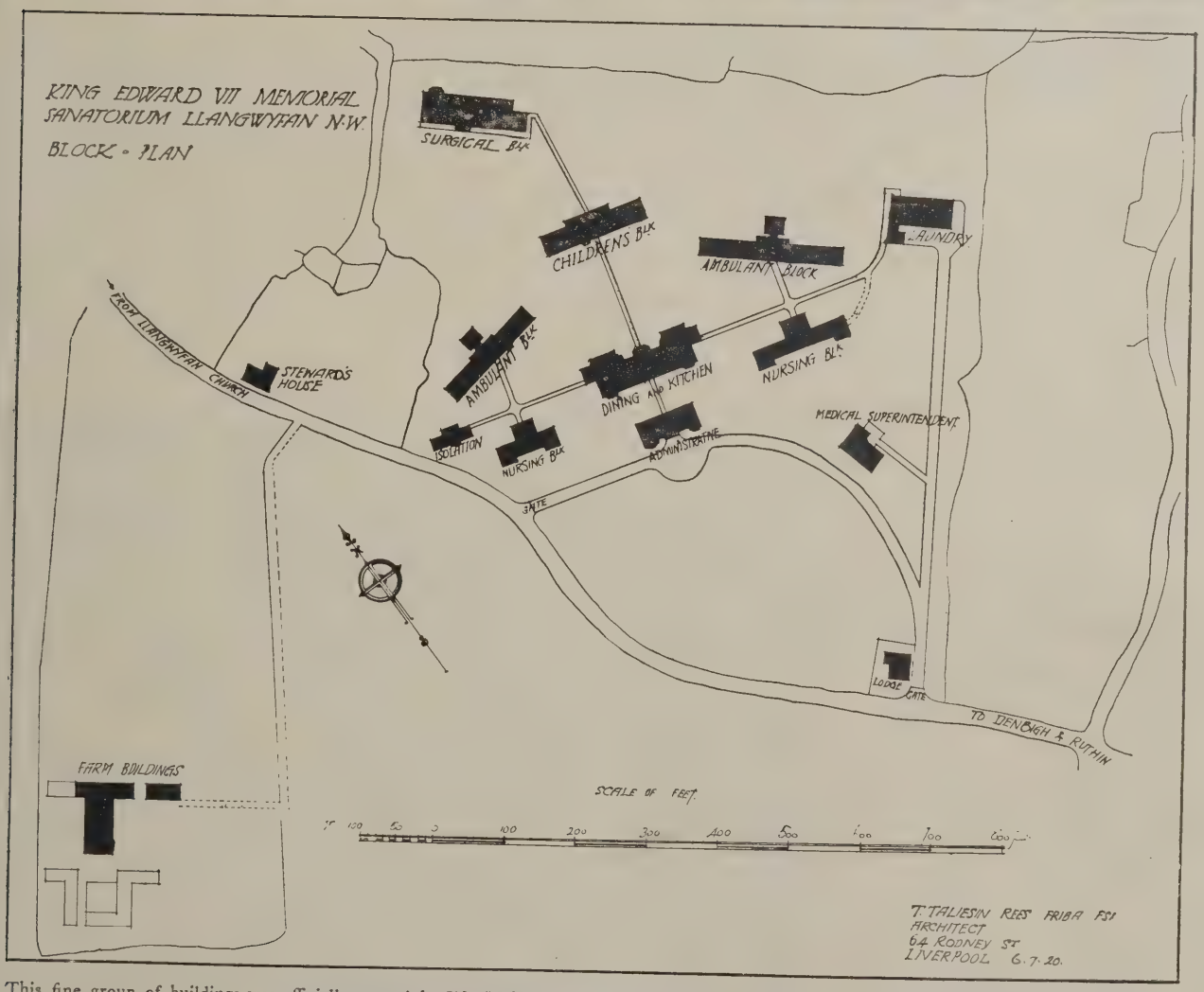
"Some architects have shaken their heads at courageous departure. I have heard it said that w this programme was all right in the hands of this ticular professional adviser it would be a very uns thing to use indiscriminately. I heard that comm with regret, since it implies that architects are not to trusted to behave as sportsmen. Perhaps not all of th are. But may it not equally be true that they are q as likely to respond to the spirit of sportsmanship a the spirit of codes and regulations? And ultimately, what other laws should they be governed than the which springs from faith given and received? I bel in putting men on their mettle as men, all the time, in keeping them there, which is perhaps one pr reason why the programme for the Nebraska S Capitol seems to me to be so fraught with poten future good.

"The programme, it might be said, is a kind of m agreement. I do not imagine, however, that any c petitor could violate such a programme with impu any more than I believe that any man who plays ga can cheat for very long without forfeiting the respec his fellows. Of course it might be urged that w the stakes are so high as almost to confer an econ independence upon the winner, cheating becomes a g temptation, and that where the prize is of such v more than ordinary precautions are demanded. B still opine that this particular programme leaves f loopholes for deception than are left where the req ments are surrounded with arbitrary rules and presc postulates."

If the successful scheme departs somewhat current American practice in monumental design, at any rate one of considerable architectural inte The great tower may be rather superfluous, but it is a ture of remarkable dignity, and contrasts very effect with the severe lines of the supporting horiz masses. The principal entrance is a compositio great strength. Our illustrations are from "American Architect."

Current Architecture. 35.—King Edward VII. Memorial Sanatorium, Llangwyfan, near Denbigh, North Wales

T. Taliesin Rees, F.R.I.B.A., Architect



This fine group of buildings was officially opened by His Majesty King George during his recent tour. The site is beautifully situated on a slope of the Moel Fammau Range, facing south and overlooking the delightful Vale of Clwyd from a height of 500 feet above sea level. Full details of the scheme are given in the article which begins on page 151.

King Edward VII. Memorial Sanatorium, North Wales

HIS MAJESTY THE KING, while on his recent tour of the country, opened the North Wales Sanatorium, which has been erected by the Welsh National Memorial Association at Llangwyfan, in the Vale of Clwyd, near Denbigh, in memory of King Edward VII.

The memorial fund was subscribed to by all classes of the community in the Principality. The originator of the scheme was Major David Davies, M.P., of Llandinam, and the total contributions to the memorial have exceeded £300,000.

Sir D. S. Davies, of Denbigh, purchased the farm and lands known as Plan Llangwyfan, which form the site, and presented them to the Association.

In 1913 the Association invited architects to submit designs in competition, in response to which thirty-one sets were sent in and adjudicated upon by Mr. Edwin T. Hall, F.R.I.B.A., who himself has designed and carried out the South Wales Sanatorium at Pontywal, near Talgarth. Mr. Hall selected the design of Mr. T. Taliesin Rees, F.R.I.B.A., of Messrs. Rees and Holt, Liverpool, who was entrusted with the carrying out of the work.

The site is beautifully situated on a slope of the Moel Fammau Range, facing south, and overlooking the delightful Vale of Clwyd from a height of 500 ft. above sea level. It is sheltered from the easterly and northerly winds, but is open to the west and north-westerly breezes.

The scheme, including the farm, consists of fourteen separate blocks. The sanatorium, which accommodates 240 patients, comprises ten blocks, all of which are connected by corridors, in addition to which there are the farm, dairy, and the power station.

The administrative block is a rather imposing building with a well-designed entrance porch, and although the lines are simple the note is very pleasing. It contains the medical superintendent's rooms, waiting and examination rooms, office, matron's office and sitting-room, nurses' rooms, and bedrooms.

VIEW IN ONE OF THE WARDS.

The dining-hall and kitchen form the central block of the scheme, which is approached directly from the administrative block, and by patients from either end. In this block are also the writing- and reading-rooms. The kitchens and corridors are lined with glazed bricks, as also are the larders, stores, sculleries, and dish-washing rooms, the latter being a special feature, as all the patients do the washing of their own crockery, cutlery, etc. Each dish, knife, fork, spoon, etc., is numbered, and the patient is allowed a number, which she retains whilst a patient in the institution.

There are two nursing blocks and two ambulant blocks—the former for bed cases and the latter for those who are able to walk about—an isolation block, and a children's block for cases requiring special care.

The show block is the surgical, which is the gift of Miss Nesta Davies, daughter of Sir D. S. Davies, and was specially designed by Mr. Rees, under the direction of Major-General Sir Robert Jones, of Liverpool. It accommodates forty patients and contains three open-air wards, sun-room, anæsthetic-room, X-ray-room, operating theatre, recovery-rooms, plaster-rooms, chart-room, nurses'-room, etc.

The Association make their own electric light, and for this purpose a power-house was erected, over which is arranged the laundry, disinfecting-rooms, sputum laboratory, etc.

Only a portion of the farm buildings has been erected, the remainder of the work having been suspended during the war. Cleanliness is the keynote throughout; and the dairy is a model of what a small dairy should be.

All the buildings are substantial in character, being erected of brick, with rough cement finish coloured white, and the roofs

THE DINING HALL.

are slated. The contractor was Mr. James Merritt, of Birkenhead.

The Association has fourteen hospitals and sanatoria in different parts of Wales, and the total number of beds available is 1,250. The whole scheme since its inception has been managed by, and is still under the direction of, Mr. D. W. Evans, of Cardiff, who is also the legal adviser.

The following were sub-contractors: Messrs. Dargue, Griffiths and Co., Liverpool (heating); Messrs. the Northern Electrical and Ventilating Company, Ltd., Liverpool (electric lighting); Messrs. Tuke and Bell, Ltd., Staffs., and London (sewage filtration, and septic tank); Messrs. Summerscales, Ltd., Keighley (laundry fittings); Messrs. T. Bradford and Co., Salford, Manchester (dairy fittings, and disinfector); Messrs. Killick and Cochran, Liverpool (ranges, hot plates, and cookery fitments); Messrs. Young and Co., Ltd., Westminster, London, S.W.1 (shippon and stable fittings); Messrs. Walter Macfarlane and Co., Possilpark, Glasgow (verandah, iron staircases, etc.); Messrs. W. and R. Leggott, Ltd., Bradford and London (ironmongery and special fitments).

Publications Received

"A Manual of the Timbers of the World: Their Characteristics and Uses." By Alexander L. Howard. Price 30s. net. Macmillan and Co., Ltd., St. Martin's Street, London.

"Little Books on Old French Furniture. III.—French Furniture under Louis XV." By Roger de Félice, translated by Florence Simmonds. Price 4s. 6d. net. William Heinemann, London.

"Cottage Building in Cob, Pisé, Chalk, and Clay." By Clough Williams-Ellis, with an introduction by J. St. Loe Strachey. Second edition, revised and enlarged. Price 7s. 6d. net. "Country Life," 20, Tavistock Street, Covent Garden, London, W.C.2.

Professional Conduct and Practice of Architects

The Council of the R.I.B.A. have from time to time passed resolutions with a view to indicating the proper professional practice to be followed in specific cases, and in the President's "Message" of July last occurs the following paragraph:

"It has long been in my mind that a definite code of professional conduct would be very helpful to our younger, perhaps to all our members. Such a code, drawn up by Gaudet on behalf of the Société Centrale des Architectes Français in 1895, has been adopted by every Society of Architects in France, and a draft on similar lines will be laid before you for approval in due course."

Such a draft was duly prepared and circulated to the allied societies and standing committees for their observations thereon. It has been most favourably received by the profession; the suggestions made for amplification or amendment have been helpful, and for the most part have been adopted by the Council. With regard to the payment of fees for quantities by the contractor instead of directly by the employer, representations have been made by five allied societies that this practice is followed, in the areas they administer, by architects of unblemished reputation; the Council have therefore slightly modified the original draft to meet these cases. But they remind members that this procedure is not in accordance with the best practice, and that a resolution on the subject has appeared in the "Kalendar" (p. 60) for some twelve years past. They therefore trust that the Councils of allied societies in whose districts the custom still prevails will do their best to discourage and abolish it, since it is very undesirable that monetary relations of any kind should exist between architects and the contractors they control on their clients' behalf. Save for the foregoing objection, and some minor criticis which are nearly all met by the draft n submitted, the document has be generally approved.

The Council have approved the do ment as amended and printed below, have ordered it to be printed in "Kalendar."

The Approved Code.

In order to place on record the c siderations which govern the conduct honourable architects and the custo accepted and observed by the architectu profession, the Council of the Royal stitute of British Architects declares practice of architects to be as follows:

I.—Personal and Inter-Professic Obligations.

1. The architect is both an artist an technician. He designs the constructi the internal and external proportic arrangements, decoration, and ac sories of buildings, directs their execut and regulates the expenditure upon th

2. The profession of architecture liberal and uncommercial. It is inc patible with the business of a contrac manufacturer, dealer in (or agent materials used in buildings, or of auctioneer or house agent.

3. An architect is remunerated solely his fees, and is debarred from any o source of profit in connection with works and duties entrusted to him.

4. An architect who owns, or has a c mercial interest in, any material, dev or invention used in building informs client thereof and obtains his sanc before permitting it to be used in w executed under his direction.

5. An architect does not act as a tra man or broker; and accepts no busi which involves his giving or receiving counts or commissions.

6. An architect does not publicly ad tise, nor offer his services, by mean circulars or other means of publicity ployed in trade and commerce. Bu may publish illustrations or descriptior his work, since these contribute to common fund of knowledge. He may hibit his name on buildings in cours execution (providing it is done in an ostentatious manner) and may sign t when completed in a way similar to adopted by sculptors of repute.

7. An architect declines to obtain or clients by means of presents, com sions, reductions of his fees, or inc ments to agents and subordinates. H fuses all secret dealings with regard client or a prospective client.

8. He abstains from seeking in any the clients of another architect or the pointments held by him. Should h called upon to accept such clients or pointments by reason of the death, r ment, or rightful termination of the ployment of another architect, he siders himself the guardian of the ho and interests of his predecessor.

9. An architect recognises the pr sional standing of his brother archi and admits the right to that title who honourably exercise the profes He is careful to observe towards ther courteous consideration due from artist to another.

10. The copyright of an architect' sign is the property of the author, a scrupulously respected by other archi His knowledge and experience s nevertheless be always at the service profession.

11. When an architect employs architects as draughtsmen or assistar gives them his aid and counsel and

MEDICAL SUPERINTENDENT'S HOUSE, NORTH WALES SANATORIUM.

Llangwyfan, near Denbigh, North Wales: Administrative Block

T. Taliesin Rees, F.R.I.B.A., Architect

This block, the central feature of an extremely well laid out group of sanatorium buildings, contains the medical superintendent's rooms, waiting and examination rooms, office, matron's office and sitting-room, nurses' rooms, and bedrooms. A full description of the work is given in the article on page 151.

them with the consideration proper to members of the profession.

II.—Obligations towards Clients.

12. The architect devotes his whole ability to protecting the just interests of his clients. He uses all his knowledge, skill, and experience in designing the buildings entrusted to him, directing their execution, regulating the expenditure upon them, and giving his opinion and advice.

13. But he does not lend himself, even at his clients' request, to proceedings calculated to infringe the rights of others, nor undertake operations which appear to him likely to injure his reputation, to compromise others, or to lead to accidents. In such cases he intimates to his clients that he finds himself unable to carry out their instructions.

14. He also notifies his clients when their alterations to proposed works are likely to increase the cost thereof.

15. An architect is remunerated by his clients (and by them alone) by means of fees, under the Conditions of Engagement stated in the Scale of Professional Charges authorised by the Royal Institute of British Architects. He accepts no remuneration or payment of any kind whatever from builders, merchants, and buyers or vendors of land or property, under contract with his clients unless with their full knowledge and approval.*

16. In connection with current repairs, administration, and other matters in which charges are made for time and services rendered, the architect usually delivers to his clients periodical accounts of his fees. For new works, and for important alterations to or renovations of existing buildings, he receives interim payments on account of his fees as laid down in the Scale of Professional Charges above mentioned.

* In certain districts it is an admitted practice for architects who take out the quantities themselves to be paid for them through the builder.

17. An architect declines judicial functions in a case in which he has already expressed an opinion on the subject of the dispute. When he is nominated as an assessor or arbitrator he ceases to represent his clients, and acts impartially.

III.—Obligations towards Contractors and Operatives.

18. An architect exerts his personal influence to establish harmony, cordiality, and good faith between all those engaged upon his works. In so far as is compatible with his duty to his clients, he endeavours to save expense to the contractors and labour to the operatives, encourages them to take an interest in the work, and receives with courtesy their technical suggestions for its improvement.

19. An architect interprets the conditions of a contract with impartial fairness as between his client and the contractor. He supplies the contractor with clear instructions, and informs him of his intentions by means of drawings or otherwise, at as early a stage of the works as possible in order that the contractor may make favourable arrangements for their execution.

20. An architect does not permit the insertion of any clause in tenders, bills of quantities, or other contract documents which provides for payment to be made to him by the contractor, whatever may be the consideration, unless with the full knowledge and approval of his client.

21. An architect does not accept any discount, gift, or business commission from contractors and tradesmen, whether employed upon his works or not.

22. Unless specially so requested by his clients, he does not undertake the payment of contractors.

23. Should an architect have occasion to reprove a contractor or foreman, he does so in such a way as not to impair their authority with the operatives.

A CHAIR AND TOILET TABLE.
(From "Furniture for Small Houses.")

Book Notices

Furniture for Small Houses.

It is not a little remarkable that amid all the talk about housing hardly a word has been said about the furnishing of the houses when they are up. The necessity for architectural comeliness, externally and internally, has been reiterated *ad nauseam;* but it seems to have been pretty generally assumed that the internal furnishings could be left to take care of themselves—the reasoning (if any) having been, apparently, that furniture does not matter, or, if it does, the shoddy products of the wholesale manufacturer will do very well.

The task of furnishing small houses or cottages, such as those which are being erected in large numbers all over the country to-day, should be supremely simple; yet in reality it is not so. Suitable furniture, if obtainable at all, is to be had only in very inadequate quantities. The great bulk of the stuff turned out by furniture makers to-day is both bad in design and unsound in workmanship. In furniture-making, as in many another handicraft, we have lost touch with tradition; the simplicity and directness of our forefathers are sadly wanting.

It is, therefore, a real pleasure to encounter a book such as that under notice. Mr. Percy A. Wells is an expert who writes with a wide knowledge and practical experience of the craft of cabinet-making. His object has been to "suggest a type of furniture which is useful, pleasant to look at, and moderate in price," and in this purpose he has succeeded admirably. His book consists of fifty-seven plates of illustrations (photographs and working drawings) of simple furniture, designed expressly to meet the current demand for something pleasing in form and durable in workmanship. The illustrations are accompanied by brief but very useful notes with regard to the kinds of wood to use and the methods of construction to follow. The examples given include tables, dressers and sideboards, chairs, and bedroom and miscellaneous furniture. Mr. Wells has not followed any particular historical model; he has simply set out to show that strong and useful furniture can at the same time be of comely appearance. His book fills a very definite want, and there should be a considerable demand for it.

"Furniture for Small Houses: A Book of Designs for Inexpensive Furniture with New Methods of Construction and Decoration." By Percy A. Wells. London: B. T. Batsford, Ltd., 94, High Holborn.

"Building" in an Encyclopædia.

Part 12 of the Universal Encyclopædia, which is being issued in fortnightly numbers by the Amalgamated Press, Ltd., is taken up with the letter B, and contains several references to building and to subjects associated therewith. The principal article, entitled "Building: Its Share in Civilisation," is an admirable summary of the whole subject. Clearly and illuminatively, the development of building methods and materials is traced from the time of the Early Egyptians up to the present day. The origins of architectural forms and their subsequent developments are also clearly explained. The survey includes a brief but very understandable exposition of the principles underlying modern methods of building construction, including steel frame and reinforced concrete. In addition, there is a wealth of useful information upon such related subjects as building laws, building societies, building

stones, and building statistics of various kinds. A good bibliography adds to the usefulness of the survey which, particularly valuable to the layman seeking a general knowledge of building history and practice, also forms a useful reminder for the professional man. The summary, which must have involved a tremendous amount of research, reveals great skill in the selection and handling of points. We cannot refrain from complimenting the compiler, Mr. J. F. McRae, an esteemed colleague, upon his success. A word of praise is also due to Mr. Harold Oakley, who supplies two excellent sheets of drawings showing details of building construction and equipment. G. J. H.

R.I.B.A. Final: Alternative Problems in Design

The following instructions to candidates for the 1920-21 Final Examination appear in the current issue of the R.I.B.A. Journal:

1. The drawings, which should preferably be on uniform sheets of paper of not less than Imperial size, must be sent to the Secretary of the Board of Architectural Education, Royal Institute of British Architects, 9, Conduit Street, W., on or before the dates specified below.

2. Each set of drawings must be signed by the author, and his full name and address, and the name of the school, if any, in which the drawings have been prepared must be attached thereto.

3. All designs, whether done in a school or not, must be accompanied by a declaration from the student that the design is his own work, and that the drawings have been wholly executed by him. In the preparation of the design the student may profit by advice.

4. Drawings for subjects (*a*) are to have the shadows projected at an angle of 45 deg. in line, monochrome, or colour. Drawings in subjects (*b*) are to be finished as working drawings. Lettering on all drawings must be of a clear, scholarly, and unaffected character.

Subject LII.

(*a*) An Open Wooden Stair for an Hotel in a space of 30 ft. deep by 15 ft. wide, exclusive of width of a corridor on each floor. A lift is not to be included. Ground floor to first floor, 15 ft.; first floor to second floor, 13 ft.; second floor to third floor, 11 ft. 6 in.; third floor to fourth floor, 11 ft. 6 in.

Drawings.—Plans, two sections, half-inch scale, with quarter full-size details.

(*b*) Convalescent Home for Fifty Men Workers, on a hilly site, overlooking an industrial city.—Accommodation to include club room or lounge, writing-room and common dining-room, necessary bedrooms and staff accommodation.

Drawings.—One-eighth-inch scale; plan, sections, and two elevations.

Subject LIII.

(*a*) A Grand Entrance to Cross-Channel Tunnel, to take four lines normal gauge railroad tracks.

Drawings.—Half-inch section and elevation. Perspective drawing not larger than 14 in. by 10 in., showing relation to surrounding country.

(*b*) A Swimming Bath and Gymnasium for a Public School.—To accommodate seventy-five at a time.

Drawings.—One-eighth-inch scale; plan, section, and two elevations.

Subject LIV.

(*a*) A Villa with a Courtyard for a Hot Climate.—Villa to be of moderate size and in no case to have more than ten bedrooms.

Drawings.—One-eighth scale; plan, section, and elevations and half-inch detail.

(*b*) A Small Country Railway Station in the Midlands, with usual accommodation for passengers and goods and further including a stationmaster's house with the B3 accommodation standard of the Ministry of Health.

Drawings. — One - eighth - inch scale; plan, section, and two elevations.

Dates for Submission of Designs in 1920-21.

	Subj. LII.	Subj. LIII.	Subj. LIV.
United Kingdom	31st Aug.	30th Oct.	31st Dec.
Johannesburg	30th Oct.	31st Dec.	28th Feb.
Melbourne	30th Nov.	31st Jan	31st Mar.
Sydney	30th Nov.	31st Jan.	31st Mar.
Toronto	30th Sept.	30th Nov.	31st Jan.

Law Report

Builder's Claim for Work Done

Hammond v. Lewis

July 29. Official Referee's Court. Before Sir Francis Newbolt, K.C.

In this action, which occupied the Court during several days, Mr. Walter Jas. Hammond, trading as J. Hammond and Son, of St. Peter's Street, St. Albans, claimed the sum of £741 balance of an account of £3,241 for building work done for Mrs. Charlotte Lewis (defendant), wife of Mr. E. W. Lewis, of Cautlings, Redbourn, Herts. The defence was that there had been unnecessary delay in the completion of the work, which had been done imperfectly, and that the materials charged for had not all been used, and that those used were of inferior quality.

Mr. Morle appeared for the plaintiff and Mr. S. Ford, with Mr. R. R. Ludlow, represented the defendant.

Mr. Morle said that the claim was made up of four items, which were fully set out in an account rendered to the defendant by the plaintiff. The first and larger item of the account was £2,983 7s. 6d. for certain alterations and additions to the defendant's house, and then there were charges of £234 4s. in respect of extra work, £38 and £15 for sundry and smaller matters. The first item was for work done. The £2,983 was for work done under a letter of contract dated January 20, 1919, and the other items related to separate jobs, a portion of which were under a lump sum contract as per estimate.

Mr. Walter Jas. Hammond, the plaintiff, gave evidence in detail as to the work which he had done under instruction from Mr. Lewis. He said, in regard to certain items, that no objection was made in regard to the charges or to the claim made for obtaining estimates. He said that the prices charged were fair and reasonable, that the labour employed was necessary for the work done, and that the materials charged for had all been used on the work.

In cross-examination by Mr. Ludlow, plaintiff admitted that prices were going up after the date of the contract, but added that it was not possible for him to have bought the whole of the material required at the start, as he did not know definitely what would be required. Mrs. Lewis, moreover, made alterations fro time to time in her requirements.

The Referee pointed out that accordi to the contract the plans were subject alteration; in fact, the power of alte tion was extremely wide, and it wou have been difficult for a builder to ha bought the whole of the materials advance.

Witness said not being certain as what the fluctuation in prices would ha been it would have been unwise to ma large purchases at one time. He did n admit that he ought to have completed t work by June.

In continued cross-examination witn said that he had heard no complaint ab the form of the vouchers sent to defenda from time to time until that day, nor v any complaint made in regard to t charges for cartage until the matter v placed in the solicitor's hands. It was t that while working on Mrs. Lewis's ho he was engaged on other work, but every case where materials had been tak from one job to the other credit had b given. The job had never been absolut completed because the conditions of contract had not been complied with the defendant.

Mr. Edward William Lewis, the def dant's husband, said that the contract signed by his wife on January 20, and balance of 20 per cent. of the total cha was not to become payable until the w was completed, and plaintiff had not c pleted it. Delay had taken place in co quence of men being taken away from job for other work. He expected plai to purchase a considerable portion of material when the work was started, that it would be obtained from time to t during progress as prices became hig He complained when he found the c were mounting above the original estim Before he went to France in August, 1 he wrote to the plaintiff asking fo definite sum for the completion of work. His opinion was that the plai did not progress with the work as should have done, and on his return f France he found that the place had b left in a disgraceful condition, and he to supply other labour to complete work, which had been left unfinished cause plaintiff refused to complete.

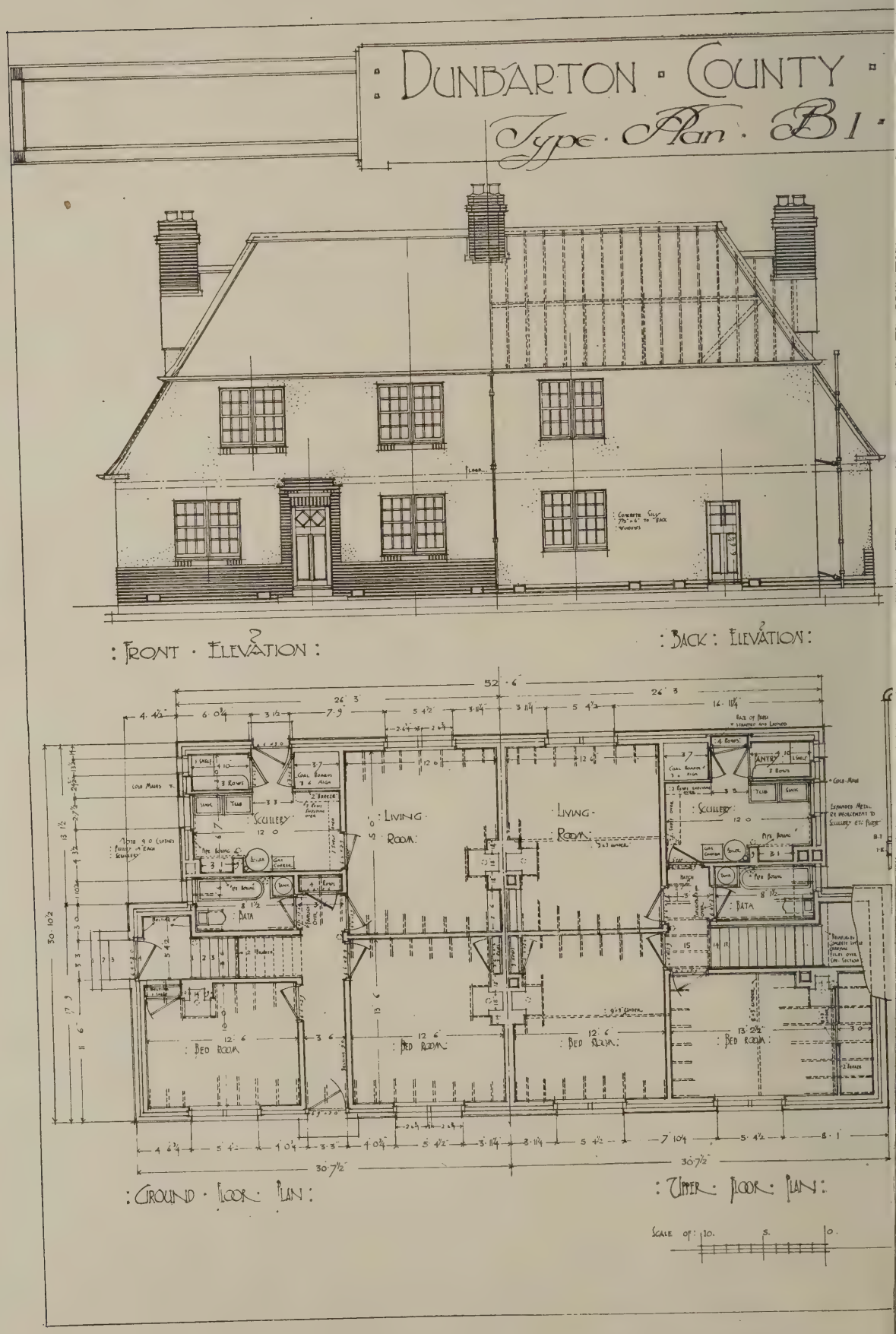
The expert evidence called during hearing were Mr. Percival Blow, for plaintiff; and Mr. H. T. Todd, surve of Regent Street, and Mr. C. H. M of Kensington, for the defence.

The Official Referee, in giving j ment, said that the plaintiff's evide which would be accepted in the m proved that he had complied with terms of the contract except as to the pletion of the work, and he had sup the defendant with documents sho how the work was going on. It was that no protest was made on the gr that proper fortnightly accounts were made out. No explanation had been g as to the circumstances under which work came to an end, but each side that the other was to blame. He f that the work came to an end before i quite finished by mutual consent, an did not find that any sum was due t defendant for delay. He found, ta into consideration all the facts of the that there was due to the plaintiff and for that amount he gave judgme the plaintiff, with costs.

Upon the application of defenc counsel a stay was granted upon conc that the amount of the judgment was into Court.

Architects' Working Drawings.
Dunbart

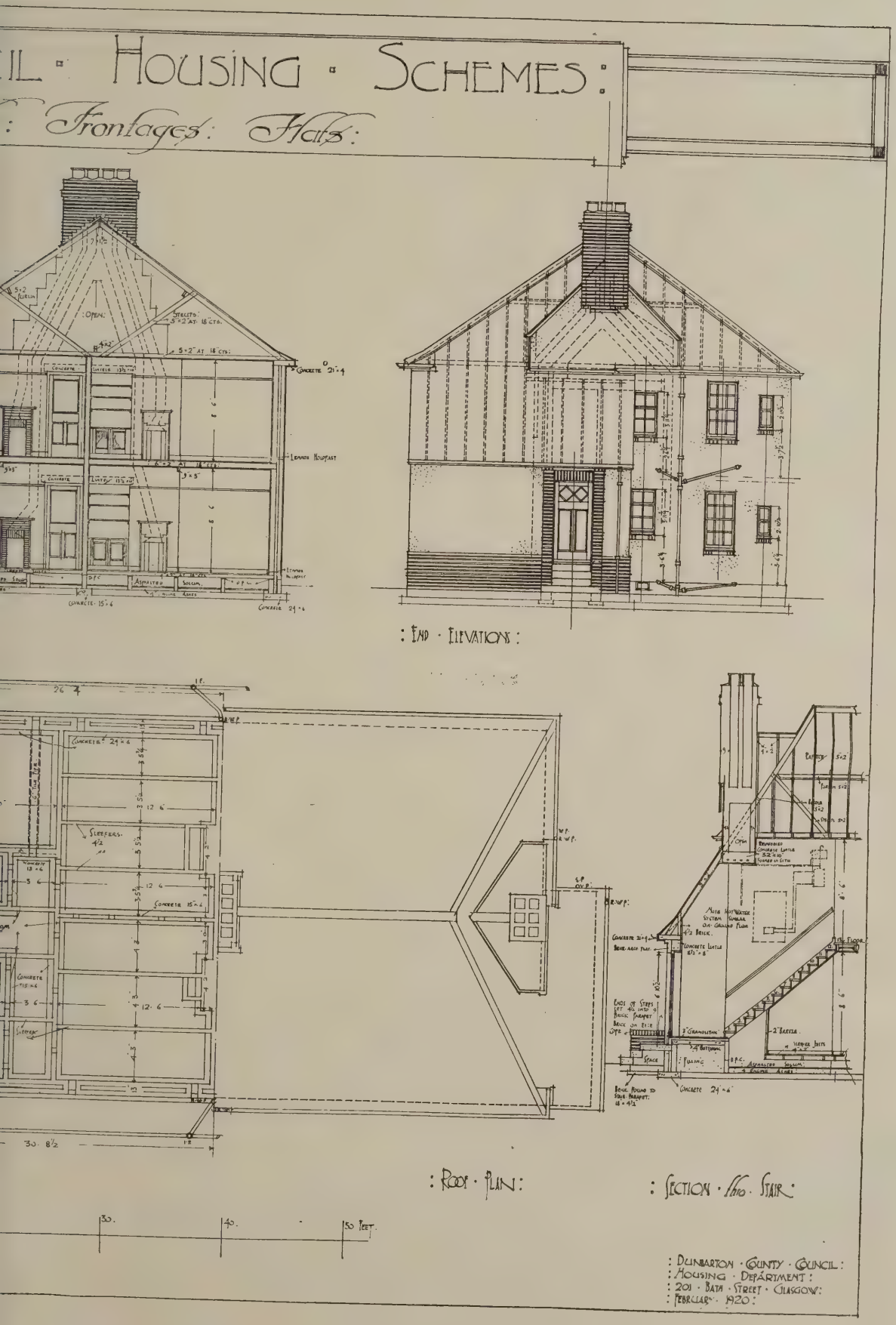
Joseph Weekes,



In Scotland there is a big demand for three-roomed flats, an
be erected in various parts of the county, whose building sch
an early date at Renton, Alexandria, Old Kilpatrick, and

Typical Flats to be erected by
Council

.I.B.A., Architect



is accommodation provided in blocks of four. The houses are to
00 houses. It is hoped that building operations will be started at
s, in which the erection of about 700 houses is contemplated.

Recent Excavator Practice*

By F. H. LIVENS and W. BARNES

THE original steam-navvy, which was capable of swinging or slewing its excavating gear through a little more than half a circle, has been now displaced to a large extent by the full circle machine, commonly known as the steam-crane navvy, and developments of this latter type are what the quarry owner and general user find so useful for their work. The size of machine most suitable for various workings is governed chiefly by: (*a*) The nature of the material, and (*b*) the output required per day. The former will determine the minimum cutting effort to be used. For example: 4 to 6 tons is suitable for material up to clay of medium hardness; 8 to 10 tons is suitable for stiff clay; 12 to 20 tons is suitable for boulder clay; and 20 to 30 tons is suitable for heavier material, such as limestone and heavy iron-ore.

The output depends also upon the size of the bucket, which again is governed by the nature of the material to be excavated; thus a machine having 6 tons cutting effort is most efficient when fitted with a bucket of ¾ to 1 cubic yard capacity; if 12 tons, then the bucket should hold from 1½ to 2 cubic yards; and if 20 tons, from 2½ to 3½ cubic yards, to give approximate examples.

The machine illustrated is the type and size of machine in most general use, and is also interesting from the modifications which can be made in it to meet various conditions of working. Its weight is 55 tons net or 62 tons in working order. With the length of jib shown, the machine has sufficient stability for 20 tons cutting effort on the bucket teeth, or, if used as a crane, it will lift a load of 20 tons.

* Extracts from a paper read before the Institution of Mechanical Engineers.

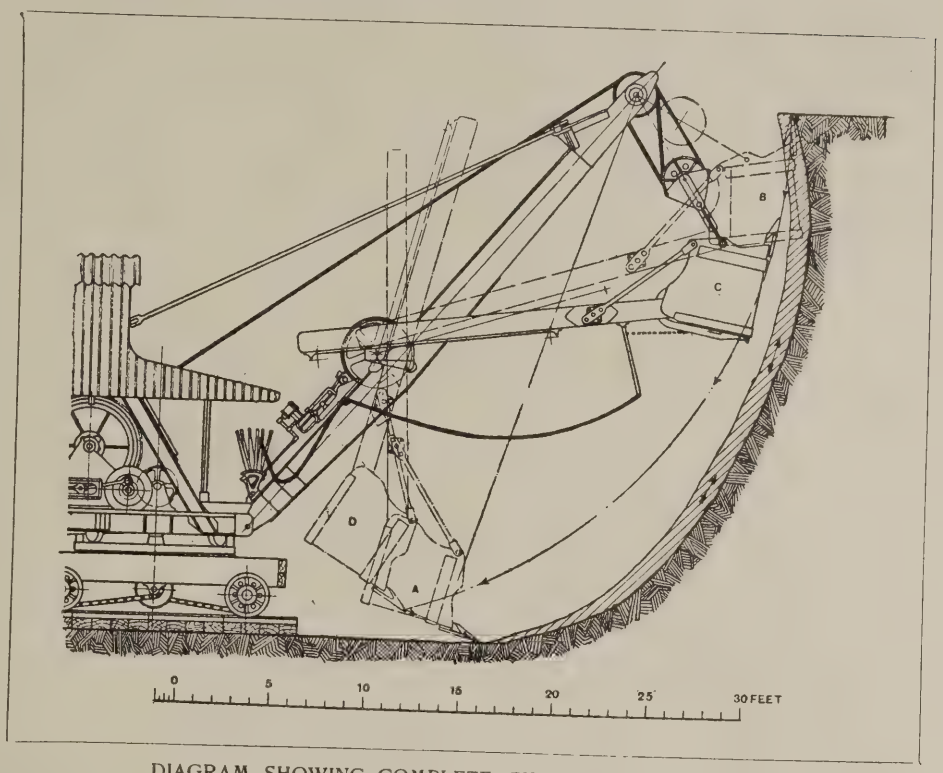
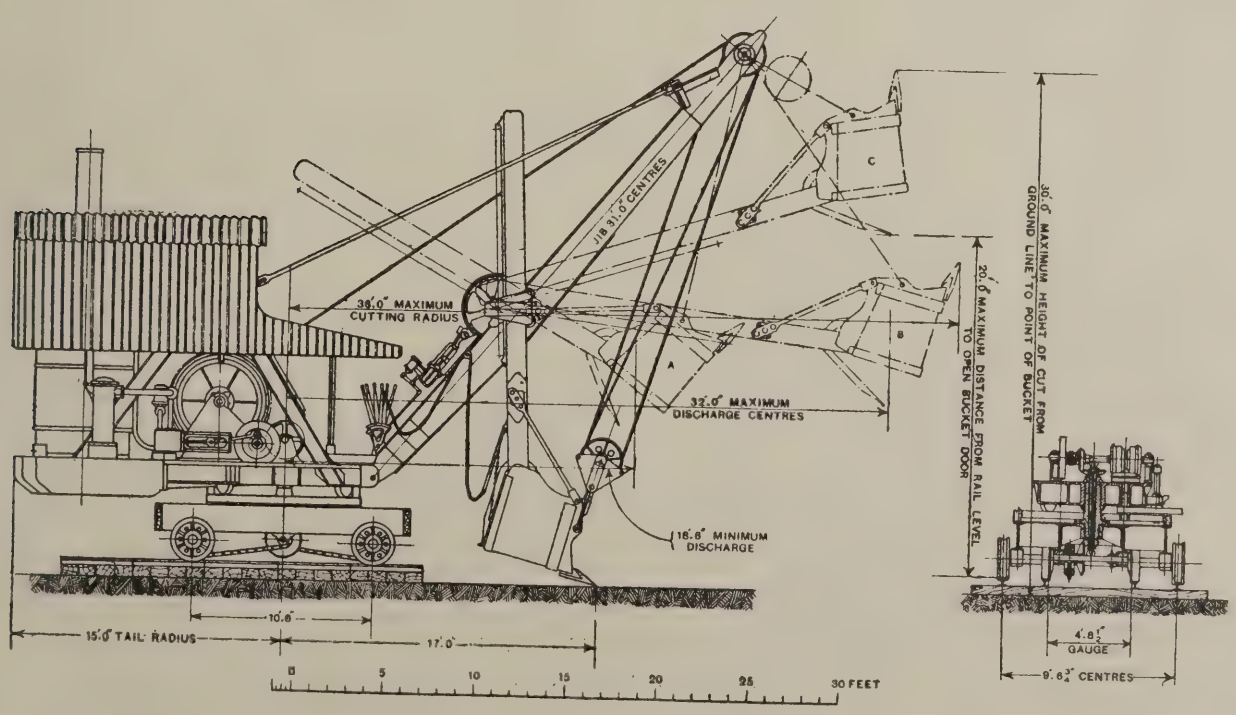


DIAGRAM SHOWING COMPLETE CYCLE OF OPERATIONS.

It is supplied with a bucket of 2¾ or 3½ cubic yards capacity, having a renewable mild steel lip plate carrying steel teeth with renewable points of Manganese steel. The main frame has the travelling gear on the underside, whilst the top face or platform carries a combined gear ring and roller path, upon which the whole upper structure and excavating gear revolves. Two sets of travelling wheels are fitted, one set to standard gauge, usually 4 ft. 8½ in., for use in moving the machine any considerable distance on a railway track; the other, a broad gauge, set to carry the machine when excavating. Rollers on the



THE MODERN STEAM-CRANE NAVVY.

under-side of the bedplate support it upon the roller-path on the main frame, whilst on it are mounted the necessary engines and gearing for digging, slewing, and travelling. The front portion of the bedplate carries the excavating gear, comprising the jib, bucket-arm, and bucket. The bucket arm is fitted with long racks gearing into pinions driven from a set of small, self-contained engines fixed on the jib, which vary the cutting or discharging radius of the bucket, the bucket-arm being racked in or out as desired.

The digging motion is operated by a wire-rope on a hoisting drum of a more or less conventional type driven through a friction clutch actuated by a steam-cylinder for easy and quick operating. The drum is loose upon the drum-shaft and, when free of the clutch, is under the driver's control by means of a foot-brake. The slewing motion is either driven from the main engines used for hoisting, through a set of reversing friction clutches and the usual gearing, terminating in the gear-ring on the main frame, or in some machines by a separate set of engines which is a duplicate of those on the jib. The travelling motion is taken off the main engines through a train of gearing connected to bevel gears at the top of the centre post, the power being transmitted from these by a vertical shaft through the centre post to the gearing under the main frame.

Cycle of Operations

The complete cycle of operation is as follows: At the commencement, the bucket hangs in a more or less vertical position, with the teeth resting upon the ground immediately opposite the "face" of the material to be removed (shown in position A). The driver starts up the engines, and throws in the hoisting clutch. The bucket is then dragged forward and upward into the face, and at the same time thrust out by means of the racks along the bucket-arms until the required depth of cut is obtained, the action being almost like putting the feed on a machine-tool. With one hand on the control lever of the main engines and the other on the control lever of the racking engines, the driver regulates the motion of the bucket as it is hoisted upwards towards the jib head, the path of cut being an arc struck from the suspension point of the bucket-arm upon the jib. By operating the hoisting and racing motions together the driver can so control the depth of cut that, providing the material is of a uniform nature, an equal thickness of cut can be taken from the bottom to the top, and the bucket can be filled completely as the top of the cut is reached, as shown in position B. He then throws out the hoisting clutch, racks in the bucket clear of the working face to position C, and holds the bucket up on the free drum by means of his brake.

As soon as the bucket is clear of the face the slewing motion is started up and the bucket is swung round over the wagon or dumping-point. When he has reached the right position for dumping he pulls a cord by his side which withdraws a catch on the bucket-door, and the excavated contents of the bucket are discharged. The slewing motion is then reversed, and the bucket is swung back towards the point in the face where the next cut is to be taken. By means of the foot-brake the bucket is then lowered to position D for the following cut, and a similar sequence of operations follows. The operations seem lengthy to describe, but the whole cycle can be performed in from twenty to sixty seconds, depending upon the size of the machine, but chiefly upon the length of the jib. In the navvy described a cycle of operations takes from twenty-five to thirty-five seconds.

The machine is capable of dealing with from: 120 to 150 cubic yards of ordinary soil or light clay per hour; 100 to 120 cubic yards of stiff clay per hour; 60 to 100 cubic yards of ironstone per hour; 60 to 80 cubic yards of loose limestone per hour.

The following is a fair average of the working costs per cubic yard loaded into wagons:

	s.	d.	
One driver	2	0	per hour.
One cranesman	1	3	,, ,,
One fireman	1	0	,, ,,
Four men around the machine	5	0	,, ,,
3 to 4 cwt. of coal	5	6	,, ,,
Oil and stores	0	9	,, ,,
Total	15	6	,, ,,

This represents a cost of approximately 1½d. per cubic yard for the maximum output of easy material and 3d. for the heavy material.

One of the illustrations shows various positions of the bucket. A is the position of the bucket when it is racked in to the minimum discharging point; B is the extreme cutting and discharging radius, whilst C shows the highest point to which the bucket can be hoisted; this indicates the depth of cut which can be taken without undercutting the material. It is evident that there are certain conditions of working which are beyond the possibilities of B and C on the standard machine, but these can be met by increasing the lengths of the jib and bucket-arm, and correspondingly decreasing the cutting effort and the size of the bucket.

The depth of cut should preferably not be greater than the height the bucket-teeth can reach. Anything above this has either to be blown down by explosives, broken down by hand labour, or allowed to take its chance of falling after it has been undercut by the machine. The first and second involve expense coupled with some difficulty and risk, whilst the last may be dangerous to the men working around or the machine itself.

To cope with extra depth, the machine may be provided with a much longer jib and bucket-arm to enable it to excavate a face 40 ft. deep without undercutting.

Another interesting modification is the combined steam-navvy and grab, a dual purpose machine designed and built to work in an ironstone quarry from which the amount of ironstone required was only sufficient to keep a steam-navvy employed rather less than half its time. Overlaying the ironstone was about 8 ft. of material which had to be taken off before the ironstone could be excavated, and the proposition was that the same machine might be used both to remove the cover or overburden and to dig the ironstone.

The jib of the steam-navvy was therefore extended and fitted with a grab to enable it not only to have enough reach to lay bare a sufficient quantity of ironstone, but to discharge the overburden on to the ground from which the ironstone had been removed.

Another useful modification is the machine which has an extended jib and bucket-arm to enable the excavated material to be discharged 60 ft. from the centre of the machine as compared with the 32 ft. of the standard machine. It is obvious that when the jib is lengthened to th extent described, the cutting effort upo the teeth must be considerably less tha in the standard navvy, otherwise th machine will not be stable. The buck must also be diminished corresponding in size. Consequently the cutting pow is reduced in this instance to 7 tons ar the bucket has a capacity of 1¼ cub yards.

The discharging radius also governs th depth of cover the machine can deal wit This particular machine, with its 60 f discharging centres, will deal with fro 15 ft. to 20 ft. of cover.

An alternative to the long jib-cra navvy for removing and dumping quar overburden direct is an excavator wi a normal length of jib, working in co junction with a transporter, for taki away and dumping the excavated materi

Excavator and Transporte

It is obvious that one ideal would be simple machine which would combine, possible, the advantages of the two sep rate machines, by possessing the qu working of the short jib and at the sa time have the long reach of the tra porter for dumping the overburde These conditions are embodied in t combined excavator and transporter.

The machine is a single-bucket ex vator carrying a wagon transporter su ported by a common tower and m frame, and weighs about 85 tons. T method of discharging the material i the wagon is its most novel feature, instead of the bucket being swung rou over the wagon in the usual way, hoisting is continued after the cut finished until the bucket is pulled into jib and immediately over the top o chute fitted between the sides of the jib

Just as the bucket is coming over mouth of the chute the catch holding door in place is mechanically pulled the door falls, and the contents of bucket are discharged down the chute i the wagon standing on the transpo track at the foot of the chute.

The excavating gear only swi through a little more than half a cir and the bottom centre of the chute co cides with the slewing centre of machine, so that the wagon, when lowe down as far as it will go, is also im diately over the slewing centre, and therefore always correctly placed, i spective of the position of the jib.

The underframe of the machine triangular in plan, and is fitted with th bogies, one at the front immedia under the slewing centre, the other at each end of the underframe at dumping side. The platform of underframe supports the tower and car the boiler, transporter engines, an separate set of self-contained engines slewing. The main hoisting or digg engines are mounted upon an up storey of the tower and above the trac the transporter. The bucket has capacity of 2 cubic yards. Two men sufficient to operate the various moti one, the driver of the transporter engi who also attends to the firing of boiler, and another who controls the e vating mechanism.

The machine can complete a cycl operations in twenty seconds, and capable of an output of 60 to 80 c yards of heavy clay per hour.

When the material is light and eas dig the endless-bucket type of excava feeding on to a belt-conveyor, may b very useful and efficient combination.

Current Architecture. 37.—King Edward VII. Memorial Sanatorium, Llangwyfan, near Denbigh, North Wales

T. Taliesin Rees, F.R.I.B.A., Architect

Nursing Block.

Ambulant Block

The arrangement of these buildings may be studied from the general plan which appears on page 149. The scheme includes two nursing blocks and two ambulant blocks—the former for bed cases and the latter for patients capable of walking about. The buildings are of brick, with rough cement finish coloured white and slate roofs.

The National Federation Meeting at Newcastle

THE summer meeting of the National Federation of Building Trades Employers of Great Britain and Ireland—a brief résumé of which we published last week—was held on Tuesday, Wednesday, and Thursday of last week at Newcastle-on-Tyne. The programme included a civic banquet at the County Hotel on Tuesday evening, at which the members of the Council were the guests of the Lord Mayor (Councillor W. Lee, J.P.) and the City Corporation; a civic reception on Wednesday in the Laing Art Gallery, when he guests were received by the Lord Mayor and the Lady Mayoress, and an excursion on the Thursday to Jesmond Dene —a well-known beauty spot a few miles out of the city. This latter function was provided by the kindness of the members of he local associations affiliated with the Northern Counties Federation. On arrival t Jesmond Dene they were received by Mr. Stanley Miller (president of the Northern Counties Federation) and Mrs. Miller, lunch being subsequently served n the banqueting-hall.

The half-yearly general meeting was eld on Wednesday in the King's Hall of e Armstrong College, under the chairanship of the President (Councillor tephen Easten, O.B.E., J.P.). The Lord Mayor attended at the opening of the proeedings, and offered the Federation a earty welcome to Newcastle on behalf of mself and the Corporation.

The President thanked the Lord Mayor r his attendance and for the hospitality hich the Corporation had extended to e delegates, and proposed a vote of anks to his lordship, which was carried th enthusiasm.

The first business was the presentation the interim report of the Council for the lf-year ended June 30. This dealt with variety of topics which had occupied the tention of the Council or its various comttees, including the revision of the rules the National Conciliation Board, a tional agreement for the settlement of ges and conditions, the work of the Instrial Council, the proposed building le, housing, labour unrest, etc. Referg to the adoption of the forty-four-hour ek, which became operative as from y 1 last, the Council said it was to be retted that such alteration had not reted in the promised increase of output, ich was put forward by the operatives being assured should shorter working irs be adopted.

The President formally proposed the ption of the report, which was seconded Mr. A. J. Forsdike (Sheffield) and ried.

Excess Wages on Housing Contracts

he Secretary (Mr. A. G. White) read a munication from the London Master lders' Association, in which it was ed that the Council had had brought to notice cases of non-federated builders were paying rates of wages in excess hose provided for in the working rule ements. In some instances those ments had been made to men employed n housing schemes. The practice red to was not confined to the London ict, and the question was of vital imance to the whole of the building trade industry. The letter suggested that the matter should be discussed at the meeting, together with the proposals of the Ministry of Health suggesting that the trade should be compelled by legislation to pay its men a weekly wage as a guarantee against loss of time through inclement weather, etc., and delay in receiving materials on all housing contracts.

The Council had considered the matter and had passed the following resolution: "That the secretary be instructed to write from the Federation to the Cabinet pressing it to receive a deputation on the subject and that a deputation of twelve be appointed, who shall have access to all the correspondence with the London Master Builders' Association as the London case is common to all parts of the country."

Mr. F. J. Gayer (London) proposed the adoption of the resolution, and Mr. T. Howarth (Rochdale) seconded.

Mr. Ernest J. Brown said that his association had sought the help of the Federation in the matter, because although they had asked Dr. Addison to receive a deputation on the subject he refused to meet them. The question was one of great importance, not only to the members of the Federation, but to the community generally, as the practice, if persisted in, must have a pernicious effect upon the national housing schemes.

Mr. W. H. Nicholls (Gloucester) said that they found that members on private work were doing exactly the same thing. They ought to strongly deprecate any excess payments being made by members on any contract work.

Mr. W. F. Drew (Stroud) said there was a growing tendency on the part of firms to enter other areas than their own and break the local rules. He thought the Federation should pass a resolution strongly protesting against such practices, and requesting the local associations to use all existing powers either to induce or compel their members to "play the game."

The President remarked that the passing of such a resolution would be a very weak way of dealing with the matter. In his district, if they had a member who was not complying with the rules they brought him before the association and dealt with him direct, and if he refused to obey the rules he had to face the music. His opinion was that they had much better have a firm outside their association if they refused to work fairly.

Mr. F. B. Bending (Bexhill) expressed the opinion that the matter was not one for the Government to deal with, but it should be dealt with by the local associations as a matter of domestic control.

Mr. F. L. Dove (London) said he felt that if they went to Dr. Addison he might reply, "Why don't you keep your own men in order?" Possibly, however, if they took a case to the Government, and pointed out that excess wages were being paid, they might compel the local authority to pay the excess out of the rates. If that was done local authorities would not be so keen on spending money as they were at present.

A resolution was proposed by Mr. E. J. Strange (Tunbridge Wells) protesting against the proposals of the Ministry of Health regarding a weekly wage, and requesting the National Federations to transmit to Dr. Addison a reasoned protest against them. He said that the feeling of his association was that if any arrangements had to be made in the direction indicated they would best be done jointly between employers and operatives. They did not want the Government to come in and "queer the pitch."

After some further discussion the resolutions were agreed to.

Co-Ordinating Wages and Conditions

Mr. R. B. Chessum (London), a member of the Joint Committee appointed to consider the establishment of a national confederation of employers' organisations for co-ordinating wages and conditions as between various industries, briefly reported on the work of the Committee. He said the idea was to try to put a stop to the pernicious practice which had existed in the past, under which various organisations took away from the building industry the men whom they had trained and made competent craftsmen. The Committee had received a considerable amount of sympathy from the shipbuilding and ship-repairing industry, the cabinet trade, and the vehicle workers. They had also received some measure of support from the Engineering Employers' Federation, although there was a distinct haughtiness in dealing with the building industry. The negotiations would still go on, and he hoped to be able to report a satisfactory conclusion to them in the near future.

Following a discussion, which was taken in private, the following resolutions were carried unanimously: (1) "That this Council instructs the Administrative Committee to send in at the latest by October 31 next to the National Federation of Building Trades Operatives our decision to withdraw from the National Conciliation Board scheme. It also recommends to each Regional Federation the sending in by the same date of a similar decision." (2) "That the Council is strongly of the opinion that the present rates of wages have reached the utmost limit under present circumstances. It expresses the strong desire that all steps shall be taken to prevent further increases." (3) "This meeting of the Executive Committee of the National Federation of Building Trade Employers pledges itself to support London or any other area in any action it may decide upon in conjunction with the Administrative Council."

The Sheffield Dispute

The Secretary reported that the Council had considered the dispute in Sheffield between the building trade operatives and the Corporation in its effect on their members who had contracts with the Corporation, and they recommended the adoption of the following resolution: "That a letter be sent to the National Board of Conciliation and the National Federation of Building Trades Operatives protesting that the decision of the Conciliation Board has not been carried out, inasmuch as men who were to be ordered to return to work in Yorkshire have not yet done so.

Mr. Chessum, in proposing the resolution, said he thought the time had come when the Federation should take a definite stand on this matter, and let it be known

broadcast that they were not going to be satisfied with idle promises on the part of the men's leaders to order them back to work in the case of a dispute.

Mr. Myers (Gloucester) seconded the resolution, which was carried.

The meeting agreed to adopt in the main a report of the Administrative Committee on the question of a more effective organisation of the Federation, referring it back to the Committee for the purpose of amendment in some minor details. The chief recommendations of the report are (1) That in future the Administrative Committee should determine the policy of the Federation; (2) that the General Secretary should be the chief official; and (3) that there should be appointed an editorial and organising secretary and an assistant secretary.

A National Wages and Conditions Council

The report of the conference of representatives of employers and operatives held on June 2 to consider a National Wages and Conditions Council for the Building Industry was then discussed.

The President, in moving that the report be received and adopted, said there had been a considerable amount of misunderstanding abroad as to what was really involved in the proposals in the report. The representative builders of the country and the representatives of the better class of operatives both thought that the present method of dealing with national matters sectionally was an undesirable one. They did not want repetitions of the Liverpool situation arising throughout the country, which might easily be unless some new methods were adopted. At the present moment any district could come to any decision with the operatives, which meant that they not only affected their own little area, but that they were deciding the wages and conditions of labour for the whole of the country. They would all agree that it was undesirable that the tail should wag the dog. If they were to be a Federation to conduct national business, then obviously they should be the body to decide such national questions as wages and hours. For the last two or three years wages had been, and were being still, settled on a national basis. What they desired was that instead of the national basis being dictated from small centres it should be dictated from responsible heads of both employers and operatives. Having regard to the decision to drop the Conciliation Board, the proposed Council was an almost necessary corollary unless they were going to get to chaos. The Council, if formed, would consist of twenty representatives of the employers and a similar number representing the operatives. The conditions that should govern the Board had not yet been formulated—that would have to be done after the Board was constituted, and whatever was done would have to be ratified by the whole of the members. It was important to note that any agreement for national wages would also have to be submitted for ratification.

Mr. Forsdike seconded the motion.

Mr. W. H. Nicholls, while welcoming the scheme, said he regretted that the operatives had not seen their way to agree to the appointment of an independent chairman. He saw that the proposed Council was to deal with grading—in his opinion each local area should be allowed to settle grading for themselves, and it should only come before the Council on appeal.

Replying to a question by Mr. Howarth, the Secretary said he was not sure about the plumbers, but the painters had agreed to come into the scheme.

Mr. Howarth expressed the view that the scheme would not be of any great value unless it was on a thoroughly national basis and included all trades.

The President said that was just what the Council would be if formed. It was not intended to interfere with the local autonomy on purely local matters, but all matters that were national, such as wages and hours of overtime, would be adjusted on a national basis.

Mr. J. M. Macfarlane said that the Manchester and Salford district had within the last few days given an emphatic vote against the scheme both in detail and in principle. His own feeling was that it was no use proceeding in the matter so long as the plumbers or any section of the trade was left out.

Mr. Chessum said that, in reply to Mr. Macfarlane, he could quite conceive that if the plumbers were going to be the one operative society who were going to flout the whole of the country, the other unions would decide that the time had come when the plumbers would have to do as they were told. One need not take a very long telescope to conceive such a position as that arising.

After some further discussion, the report was carried with nine dissentients.

The following resolution was passed, on the motion of Mr. Howarth, seconded by Mr. Rushforth (Grimsby): "That having accepted the report and findings of the Joint Industrial Council on apprentices, we advise that local and regional welfare committees be set up in accordance with the recommendations of that report."

The Cement Discount

Mr. Brown, on behalf of London, referred to the recent withdrawal of 2½ per cent. discount previously allowed by the cement merchants. He said they had asked the manufacturers to receive a deputation on the subject, but they had declined point-blank to receive them. His association claimed that if there was a case of profiteering to-day, that action of the cement manufacturers was a case in point. They had formed such a ring that it was very difficult to break it down. Employers in the building trade had been accused of forming rings for a very considerable period. The builders themselves had got no rings, but the cement merchants had apparently established a ring of a very severe description, and the question was how could the Federation bring those people to book? He thought it was time that the builders set up their own cement manufactories and supplied themselves instead of being subservient to the ring that had been formed against them. It was high time that the Federation did something to stop that profiteering on the part of one of the most important sections of manufacturers. He proposed that the matter be referred to the Administrative Committee with instructions to deal with it at the earliest possible opportunity.

This was agreed to.

The Secretary announced that he had received from the Secretary of the National Federation of Building and Public Works Contractors of Belgium a very fine bron plaque framed in black and gold mark as a souvenir of the good offices render by the Federation to its exiled membe during the war. The plaque was now the headquarters of the Federation, whe it would always be treasured by the me bers. He had also received the Ki Albert Medal in gold, which had be awarded to him (Mr. White) personally the Belgian Government at the suggesti of the Belgian Federation.

The President said he was sure he w voicing the feelings of the whole Fede tion when he said how greatly they app ciated the souvenir which their Belgi friends had been good enough to se them. They were also delighted to kn that the Belgian Government had honou their secretary by conferring upon him King Albert Medal.

Mr. White said he felt that, in conf ring that honour upon him, the Belg Government were really honouring Federation. He hoped to be in Paris n October at the international confere of the building trades, when he would p licly thank their Belgian friends for th kind gifts.

The meeting terminated with a vote thanks to the President for presiding.

The Standard Metal Window

The principle of standardisation, wh has become the watchword of mod commerce, and the solvent of many of economic problems, has a peculiarly be ficial application to the production of metal window.

There was a time, however, when ar tects viewed "repetition" and "st sizes" with disfavour and insisted on th fittings and mouldings being purp made and "to drawing." In these d this attitude has given place to an ackn ledgment that subtly-designed casem whose over-all dimensions run to odd h inches involve needless expense to th clients.

It is very probable that this chang view has arisen, as it has most certa been encouraged, by the enterprise manufacturers in providing them highly specialised commodities of g design, scientific construction, and in s a variety of standard sizes as will quately meet every reasonable requ ment.

The standard metal window, origin known as the cottage window, is a cas point. It was evolved after careful st and exhaustive experiment in order meet the phenomenal demand for sim constructed metal windows of mode cost, which the makers, Messrs. Crittall Manufacturing Co., Ltd., Br tree, Essex, anticipated would be requ for housing schemes throughout kingdom.

These expectations have been amply filled, and not only are these winc being already used by over fifty hou authorities, including the London Co Council, but their popularity am architects has also led to their adop for larger private residences. In addi to this greatly extended home demand, makers are developing an export t with British East Africa, China, Ir South America, Cape Colony, Natal, the Transvaal, and they have foun

HOW HY-RIB HAS HELPED HOUSING.

Pair of HY-RIB steel-framed concrete houses. Complete in six weeks.

The housing situation is a menace to the nation. Houses *must* be built, thousands of them—and AT ONCE.

The people don't want speeches. They want Houses.

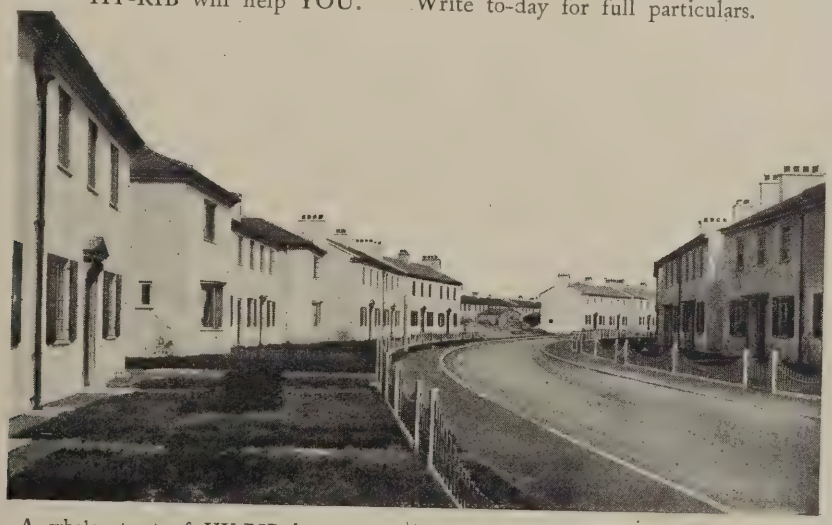
Can they get them? - Yes.
Are they getting them? - Yes.
Then where? (See below.)

A first list of official housing schemes on the "Dorlonco" system wherein "Hy-Rib" is used for construction of walls, floors, roofs, ceilings, etc. :—

BIRMINGHAM.	MIDDLESBROUGH.	LIVERPOOL.
DONCASTER.	WARRINGTON.	MALTBY.
GLOUCESTER.	DERI.	ROSSINGTON.
LEYLAND.	HATFIELD.	CHISLET.
DURHAM.	ASHINGTON.	PONTELAND.
WHARNCLIFFE.	STURRY.	SANDAL.
ACTON BRIDGE.	WALKERGATE.	PENKETH.
BOLTON.	EARSDEN.	KIRK SANDELL.
DORMANSTOWN, REDCAR.	ROTHERHAM.	CASTLEFORD.
GRIMSBY.	WEST BROMWICH.	CHESTERFIELD.

Building is in progress in all these schemes. Many houses are already completed. Hy-Rib house construction is very speedy, and is approved by the Government.

HY-RIB will help YOU. Write to-day for full particulars.



A whole street of HY-RIB houses, many already occupied. Dormanstown Housing Scheme. Architects: Messrs. Adshead, Ramsey & Patrick Abercrombie.

THE TRUSSED CONCRETE STEEL CO., LTD.,

Truscon House, Cranley Gardens, South Kensington, S.W.7.

EDISWAN

ECONOMY AND EDISWAN

"ECONOMY" and "EDISWAN" are linked together in the

ROYAL EDISWAN

HALF WATT TYPE

LAMPS.

THE Half Watt type lamp is the latest development in Lamp manufacture, and has nearly forty years experience behind it.

THEY have a filament of high intrinsic brilliancy burning in Nitrogen, instead of in a vacuum. The current consumption is extremely low, being only about half a watt per candle. Thus a light of 100 candle power can be obtained for 16 hours for one unit. With electricity at 6d. per unit, this works out at 2¼ hours at a cost of one penny.

HALF Watt Lamps are especially suitable for indirect or semi-indirect Lighting, giving perfectly even and shadowless illumination, freedom from glare, and eliminating all eye-strain.

SEND your Enquiries for Lamps, Fittings, Accessories, Wires and Cables, and in fact, EVERYTHING ELECTRICAL to:—

The Edison Swan Electric Co., Ltd.,

PONDERS END, MIDDLESEX.

Telegrams and Cables: "Ediswan, Enfield." Code: Western Union A.B.C. (5th Edition).
Telephone: 520 Enfield (6 lines).

London Showrooms: **123-125, Queen Victoria Street, E.C.4, and 71, Victoria Street, S.W.1.**

BRANCHES—

BRIGHTON, BRISTOL, BELFAST, BIRMINGHAM, CARDIFF, CORK, DUBLIN, DUNDEE, GLASGOW, HULL, LEEDS, LIVERPOOL, MANCHESTER, MIDDLESBROUGH, NEWCASTLE-ON-TYNE, NOTTINGHAM, SHEFFIELD, SOUTHAMPTON, SWANSEA

AUSTRALIA: MELBOURNE, SYDNEY, BRISBANE, ETC.

necessary in consequence to reorganise ompletely their processes of manufacture, o instal improved machinery, and to enarge their workshops. This rearrangenent of the minutest details of production, ith its consequent elimination of methods nvolving unnecessary labour, has enabled e firm to offer quick delivery, irrespecve of the magnitude of the order, at rices which compare favourably with ood.

The architect now has a range of sixty istinct types of metal windows from which choose. These embrace one-to-three-ght casements without transomes, and imerous combinations of them with tranmes and mullions, all opening outwards ight- or left-hand as required), and the ansome lights top-hung. With respect the overall frame dimensions, and the tio of width to height of the panes, these e based on the best examples, and follow e practice of the leading architects.

As regards construction, simplicity is e prime consideration, four distinct unit ctions for frames and bars having been und sufficient for all purposes. It is inesting to compare the plain Z frame ction of the standard metal window with elaborate and complicated weather ecks, which were thought necessary in early days of metal casement construcn.

Each window receives two coats of anit priming before being finally stoved. e finished tint is sorrel green, this colour ing been selected after a long course experiments, with the concurrence of l-known architects.

The best results are obtained with stand metal-windows if they are built in the nings instead of being inserted after se have been prepared. This greatly litates speedy construction, and also ures agreement between the widths of metal frames and the builders' work.

inally, it may be mentioned that the ngs also are standardised. This in no se implies poverty of design or any ring of the standard of workmanship. designs are the result of a consensus deas gathered from the best architecl practice.

oyal Institute of British Architects

e following business was transacted at eeting of the Council of the R.I.B.A. on July 19:

pointments of Boards and Comees.—The Council approved the report e Selection and General Purposes mittee, and appointed the Committees Council, the Board of Architectural ation, the special Boards and Comes, and the additional members of the Standing Committees for the Session 21.

ic Survey Exhibition.—The Council nted a Joint Committee for the purof organising an exhibition of civic y drawings.

Standing Committee on Water ations.—Mr. H. Austen Hall and Mr. Searles-Wood were re-appointed to ent the R.I.B.A. on the Standing ittee on Water Regulations.

islation.—It was decided to take to protect the interests of architects rveyors in the Government service the Government of Ireland Bill and to safeguard the rights of the under the Air Navigation Bill.

Enquiries Answered

Colouring Cement.

With reference to the enquiry by "Veritas," which appeared under the above heading on page 82 of our issue for July 21, Messrs. Kerner-Greenwood and Co., Ltd., write: —

"We have compiled a colour chart in which full directions and proportions are given for colouring cement, and should be pleased to send a copy to your querist or any other readers free of charge."

Glazed Tile Slabs.

G. H. (Brighton) writes: "Would you please inform me which is the correct method of 'backing' glazed tiles to form slabs and interior grate surrounds?"

—Either of the following methods might be successfully adopted: (1) Portland cement and sand reinforced with metal lathing, 1-in mesh, to finish 1½ in. thick; (2) Keene's cement and sand and ditto, but with ¼-in. mesh iron wire. The latter method is probably to be preferred, though the first is equally good if the slabs are not expected, after fixing, to stand high temperatures.

Pugin and the Houses of Parliament.

E. W. P. (Stafford) writes: "In the biography of Sir Charles Barry, published under his portrait on page 85 of your issue of July 28 you state that he designed the Houses of Parliament. I have always been under the impression that Pugin was the designer, and not Sir Charles Barry. Can you give me any information on the subject?"

—This impression is no doubt due to the controversy that took place after the publication in 1867 of "The Life and Works of Sir Charles Barry," by his son, Dr. Alfred Barry, when a claim was set up on behalf of Pugin, then deceased, to a much larger share in the work of designing the new Palace of Westminster (now known as the Houses of Parliament) than was admitted in the narrative. The controversy raged for a time, but without substantiating Pugin's claim. The following letter disclaiming the credit, which some of his admirers attributed to him, was written by Pugin and published in our contemporary, "The Builder," on September 6, 1845: "As it appears by an article in the last number of the "Builder," as well as in notices contained of late in other periodicals, that a misconception prevails as to the nature of my employment in the works of the new Palace of Westminster, I think it incumbent on me, in justice to Mr. Barry, to state that I am engaged by him, and by him alone, with the approval of the Government, to assist in preparing working drawings and models from his designs of all the wood-carvings and other details of the internal decorations, and to procure models and drawings of the best examples of ancient decorative art of the proper kind, wherever they are to be found, as specimens for the guidance of the workman in respect of the taste and feeling to be imitated, to engage with artists and the most skilful workmen that can be procured in every branch of decorative art, and to superintend personally the practical execution of the work upon the most economical terms compatible with the nature of it and its most perfect performance. In fulfilling the duties of my office, I do not do anything whatever on my own responsibility; all models and working drawings being prepared from Mr. Barry's designs, and submitted to him for his approval or alteration previous to their being carried into effect; in fine, my occupation is simply to assist in carrying out practically Mr. Barry's own designs and views in all respects."

R.I.B.A. Fees and Subscriptions Increased

The Privy Council have issued the following order to sanction the proposal of the R.I.B.A. to increase their entrance fees and subscriptions:

Whereas the Royal Institute of British Architects did, in accordance with the provisions of the 33rd Article of the Charter of Incorporation of the said Institute, by Resolution passed at a Special General Meeting of the said Institute held on the 10th day of May, 1920, and confirmed at a subsequent Special General Meeting of the said Institute held on the 7th day of June, 1920, resolve:—

That in order to provide funds to meet the increase in expenditure due to the general advance in prices an addition of one guinea be made to all entrance fees and subscriptions of Memmers and contributions of Licentiates, and that the necessary steps be taken to obtain the sanction of the Privy Council to such revision of By-law 17 as is required to give effect to this Resolution.

And whereas by the said 33rd Article it is provided that no By-laws shall be of any force or validity whatever unless and until they have been approved by the Lords of the Council.

And whereas a revised By-law in substitution for By-law 17 has been submitted to the Lords of the Council.

Now, therefore, Their Lordships, having taken the said revised By-law (a copy whereof is hereunto annexed) into consideration, are pleased to allow the same.

ALMERIC FITZROY.

Revised By-Law Referred to in the Foregoing Order of Council.

By-law 17.—The amounts of entrance fees and subscriptions shall be from time to time determined by Resolution of the Royal Institute.

(a) The entrance fee of each Fellow shall not exceed six guineas, nor his annual subscription five guineas. In the case of a fellow elected from the Class of Associates, his entrance fee shall not exceed three guineas. Provided always that the Council may during their pleasure dispense with the payment of an entrance fee in the case of Non-Metropolitan Fellows.

(b) The entrance fee of each Associate shall not exceed four guineas, nor his annual subscription three guineas.

(c) The entrance fee of each Honorary Associate shall be at least three guineas, which shall be appropriated to the Library fund, and his annual subscription shall be three guineas.

(d) A Licentiate shall pay an annual contribution of two guineas and for this shall be entitled (1) to receive the "Journal" and "Kalendar" of the Royal Institute; (2) to use the Institute premises, subject to any regulations or restrictions that the Council may make from time to time.

The Week's News

(Concluded from page 146).

Sixty Houses for Welshpool.

The Welshpool Town Council have sealed tenders for erecting sixty houses, to cost, with roads and sewers, over £58,000.

Housing at Hinckley.

A proposal is afoot to erect forty houses on the new estate of the Sketchley Dye Works, Hinckley.

Llandudno Housing Contract.

The Llandudno U.D.C. have accepted the tender of Mr. Arthur Thorp to build twenty houses for £18,870.

Brighton Housing.

At Molescombe, to the north of Brighton, nearly 500 houses are in course of erection.

Kingston-on-Thames.

The Corporation have received the sanction of the Ministry of Health to a loan of £150,000 for housing.

Housing at Wolstanton.

The U.D.C. have decided to apply to the Ministry of Health for sanction to a loan of £115,000 for housing.

Wallsend Housing Schemes.

It is estimated that 2,500 houses are required in the town, and the Council have schemes prepared for over 1,000 houses.

Electric Lighting of Walsall Houses.

The Corporation have decided to install electric lighting at a cost of £5,000 in the houses to be erected at Blakenall, etc.

Irlam and Direct Labour.

The Irlam Council have decided to erect ninety houses by direct labour on the site in the Cadishead Ward.

Edgehill College.

It has been decided to proceed immediately with the rebuilding of the Edgehill United Methodist Girls' College, Bideford.

400 Houses for Tottenham.

The U.D.C. have accepted the tender of the Metropolitan Tunnel and Public Works Committee for the erection of 400 houses.

Housing at Darlington.

The R.D.C. have received the sanction of the Public Works Loan Commissioners to a loan of £23,643 for the erection of houses at Middleton St. George.

New Housing Assistant for Padiham.

Mr. Frank R. White, of Leicester, has been appointed housing assistant to the Padiham U.D.C. at a salary of £550 per annum.

Sanatorium for Herts.

At a sum of £25,000, Herts County Council has purchased Ware Park Mansion and 112 acres upon which to erect a tuberculosis sanatorium.

£16,500 for Lincoln Sanatorium.

Branston Hall Estate, near Lincoln, has been purchased by the Lindsey authorities for £16,500 for the purpose of a sanatorium for the county.

Housing at South Shields.

The South Shields R.D.C. have received the sanction of the Ministry of Health to the borrowing of £120,000 for houses at Boldon Colliery. Each house will have four rooms, bath, and scullery.

Bradford and Direct Labour.

Following upon the decision of the Corporation to erect 600 houses by direct labour, every effort is now being made by the Street and Drainage Department, to whom the question of finding the necessary labour has been delegated, to push forward the work. All operatives upon the scheme are to be guaranteed a full week's work, with no broken time for bad weather.

Building Guild Contracts.

The tenders of the Manchester Building Guild have been accepted by the Wigan Corporation for the erection of 136 houses, and by the Bowdon Urban District Council for the building of 36 houses.

St. Teath War Memorial.

The foundation stone and thirty-six memorial stones have been laid in connection with St. Teath war memorial, which is to take the form of a tower, with a four-dial striking clock. A granite slab will bear the names of the fallen.

New Partnership.

Colonel Oswald Jaques, late of the Essex Regiment, has joined Mr. and Mrs. John Starkie Gardner, in their business as art metal works, which has been established 150 years, and which is carried on at 1a, Tradescant Road, South Lambeth, London, S.W.8.

Housing at Eastbourne.

The Ministry of Health have approved of a tender for the erection of houses at Stone Cross, and the Council have, subject to the approval of the Ministry, accepted a tender for the erection of fourteen houses at Berwick, Alfriston, and Alciston.

Housing at Houghton-le-Spring.

The Housing Commissioner estimates that up to 1922 at least 1,100 houses will be required in the district. Subject to the approval of the Ministry of Health the R.D.C. have accepted the tender of Messrs. J. W. White, of Sunderland, for the erection of fifty-two concrete houses at a cost of £850 per house.

"Mayflower" Memorial Hall.

Four huge blocks of granite from Plymouth, New England, have arrived in London. They are to serve as corner-stones for a memorial hall which the Salvation Army is building on the Barbican, at Plymouth, opposite the spot from whence the Mayflower Pilgrims finally set sail three hundred years ago.

Salford's War Memorial.

The special committee appointed in Salford to determine the form which the borough war memorial shall take have decided that the money subscribed, more than £26,000, shall be devoted to the purposes of the Salford Royal Hospital. A ward is to be endowed, and tablets are to be placed in the entrance hall and the ward.

Daily Mail "Ideal Village."

The village opens for public exhibition next spring. Mr. White, of Messrs. Milner, Son and White, of Victoria Street, S.W., the authority on garden-planning, has been appointed consultant to the village. Mr. Howard Chapman, the well-known horticultural expert, has been retained as horticultural superintendent to the village to carry out the plans and suggestions of Mr. White.

Labour for Housing.

The Urban District Councils' Association, at their annual conference at Ilkley, passed a resolution protesting against the practice in the building trade of paying gratuities in the way of bonuses and overtime rates to bricklayers engaged on buildings other than houses; and deprecating the withholding of labour by the refusal of the building operatives' unic to remove the embargo on the admissic of more men to the building trade.

Blyth Housing Scheme.

The chairman of the Housing Cor mittee has cut the sod in connection wi the first part of the Blyth housing schem The whole scheme will cost one millic sterling. The part of the scheme inaug rated is for 250 houses, to cost a quart of a million. The majority of the hous will be of the parlour type, each contai ing a living-room, parlour, and sculle on the ground floor, and three bedroor and a bathroom on the first floor.

Derby's Housing Scheme.

To date the total number of houses course of erection is 198. The Housi Commissioner has approved of the lay-c plan for thirty-eight houses on the W brook Farm estate, seventy-two houses the Uttoxeter Road site, and fifty-eig houses on the Osmaston Park Road si The R.D.C. have resolved that complai be made to the Min'stry of Health as the serious delay in obtaining materi from the Director of Building Mater Supplies.

Institution of Civil Engineers.

Much useful information on buildi methods and materials appears in the c rent issue of "Abstracts of Papers in Sci tific Transactions and Periodicals," p lished by the Institution of Civil Engine These abstracts, now issued as a separ publication, were printed from 1875 1916 in the "Minutes of Proceedings" the Institution. Their object is to in cate the nature and scope of the more portant information, published outside United Kingdom, in the current literat of engineering and of applied science lated thereto.

Coming Events

THURSDAY, AUGUST 12.

Industrial Council for the Building dustry.—Annual meeting at Mont House, Whitehall, London, S.W.1, Thursday and Friday, August 12 and 10.30 a.m., for dispatch of business as agenda below. If the Council finds it unable to complete its agenda on the al dates the sitting will be continued on morning of Saturday, the 14th inst., at same hour:

Agenda.

1. Notice convening the meeting.
2. Minutes of last meeting and mat arising.
3. Treasurer's report and accounts matters arising.
4. Receive reports, if any, of Cou Committees, and if thought proper res thereon, (a) Resettlement Committee, Educational Committee, (c) Managen and Costs Committee, (d) Welfare C mittee, (e) Administrative Committee.
5. Receive and if thought proper res upon communications, if any, from: Ministry of Labour, (b) Education Dep ment, (c) Home Office, (d) Ministry Health, (e) any other Government Dep ments, (f) any other correspondence.
6. Election of officers and committe
7. Any other business that may be sented by the chairman.

FRIDAY, OCTOBER 29.

Bristol Housing and Home Life nomy Exhibition.—Drill Hall, Norw Opening ceremony. The exhibition mains open till November 13.

BRIGGS ROOFINGS

for FACTORY

or HOME

Absolutely Weatherproof.
Practically Everlasting.
Reasonable First Cost.
Minimum Of Upkeep.

We are actual manufacturers of every grade of Roofing and will willingly furnish samples and prices on application.

W. BRIGGS & SONS, Ltd.
DUNDEE

London:
6, Lloyd's Avenue.
Glasgow:
17, Blythswood Sq.

VENUS

17 degrees Blacklead
6B *(Softest)*
to
9H *(Hardest)*

H.B. VENUS

For
Architects
& Builders

Of all Stationers & Drawing Office Suppliers

PENCILS

"VENUS" Lower Clapton Road E.5.

RUBEROID

Roofing

2,000 yards of RUBEROID protect this building.

RUBEROID has proved efficient although the building is subjected to excessive vibration caused by heavy underground railway traffic.

For over 29 years Ruberoid has been in use on all kinds of roofs and buildings and whether laid on boards or concrete or for weatherproofing defective asphalt roofs always proves Economical, Reliable, and Durable.

Our Catalogue, illustrated with examples of our work, will be sent on request.

Made in three Colours
GREY RED & GREEN

THE RUBEROID CO., LTD.
1, Waterloo House,
81-83, Knightrider St.
LONDON,
E.C.4.

CONTENTS.

Edited by PROFESSOR A. E. RICHARDSON, F.R.I.B.A.

Notes and Comments: Crisis in the Building Industry; London University Site; Street Labels; Do Workers Want Trouble?; A Haunted House Demolished; Practical Geometry; Endowment of Technical Science 171-2

The Building Trades Parliament Crisis: Employers v. Operatives... 173

The Week's News ... ... 174, xv.

Architectural Causerie: A Forgotten Architect. By Aero 175

Registration in the U.S.A. 176

The Industrial Council for the Building Industry: Annual Meeting ... 180

Correspondence: Architects Provided by H.M.O.W.; A. and S.A.P.U.; Metropolitan Branch 183

Enquiries Answered; Dark Grey Cement; Henry VII.'s Chapel, Westminster 184

London University Site 184

A New Power-Station at Gainsborough 189

Luxury Building and Labour ... 190

Weekly Housing Report 190

Hammersmith Housing Competition 190

Publications Received 190

Competitions Open 190

Exterior Colour Decoration 193

Dominions Touring Exhibition ... 193

Manchester and the Ministry of Health 193

Coming Events 193

Trade and Craft: Surveying Instruments; Concrete Blocks for Housing; Electric Fittings and Fans; A New Decorative Paint 194

Government and the Building Trades 194

Huntingdon Builders' Annual Dinner 194

Architect's Assistant Wanted in Singapore 194

Glasgow Housing and Health Exhibition ... ... xvi.

Current Prices of Materials ... ... xix.

Electrical Notes: Common Faults in Illumination ... ... xxii.

Complete List of Contracts Open xxiv., xxvi.

ILLUSTRATIONS:

M. Henri Paul Nénot 169

Monuments. 2.—The Lincoln Statue, Westminster. Augustus Saint-Gaudens, Sculptor... 170

The Royal Western Hotel, Bristol. R. S. Pope, Architect 175

St. Mary's-on-the-Quay, Bristol. R. S. Pope, Architect ... 176

Current Architecture. 38.—Proposed Power House on the Erne, for the Irish Hydro-Electric Syndicate, Ltd. D. A. Beveridge, Licenciate, R.I.B.A., Architect 17

Terraces of Houses at Clifton, Bristol. R. S. Pope, Architect 17

Plan of Proposed Power House on the Erne 17

Details of Craftsmanship. 3.—Chimneypiece from an Old House in Canonbury-place, London, N. 18

Detail Through Classroom and Entrance of Proposed Secondary School at Bishops Castle, Salop 18

Architects' Working Drawings. 13. — Proposed Secondary School, Bishops Castle, Salop. George H. Bailey, Architect 186, 18

General Plan of Power Station on the Trent 1

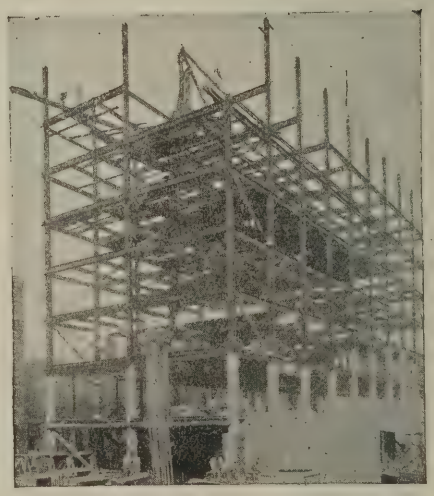
Modern Domestic Architecture. 14.—Designs for Bungalows. C. F. W. Dening, F.R.I.B.A., Architect 1

DAWNAY DEFINITIONS—3.

CONFIDENCE.

CONFIDENCE is the basis of all successful enterprise. To be able to count on material being right, and the service being progressive is half the battle. As we can guarantee this, the moral of this announcement is obvious. Send us your enquiries for constructional material.

Stocks of
British Standard Sections in Joists, Channels, Angles, Tees, Flats, etc.



ARCHIBALD D. DAWNAY
AND SONS, Limited.

Telephones: Battersea, 1094. (3 lines).
Steelworks Road, Battersea, S.W.11
Telegrams: "Dawnay, Battsquare, London."

Telephone: Cardiff, 2557.
And at East Moors, Cardiff.
Telegrams: "Dawnay, Cardiff."

Wednesday, August 18, 1920

Volume LII. No. 1337

THE ARCHITECTS' JOURNAL & Architectural Engineer

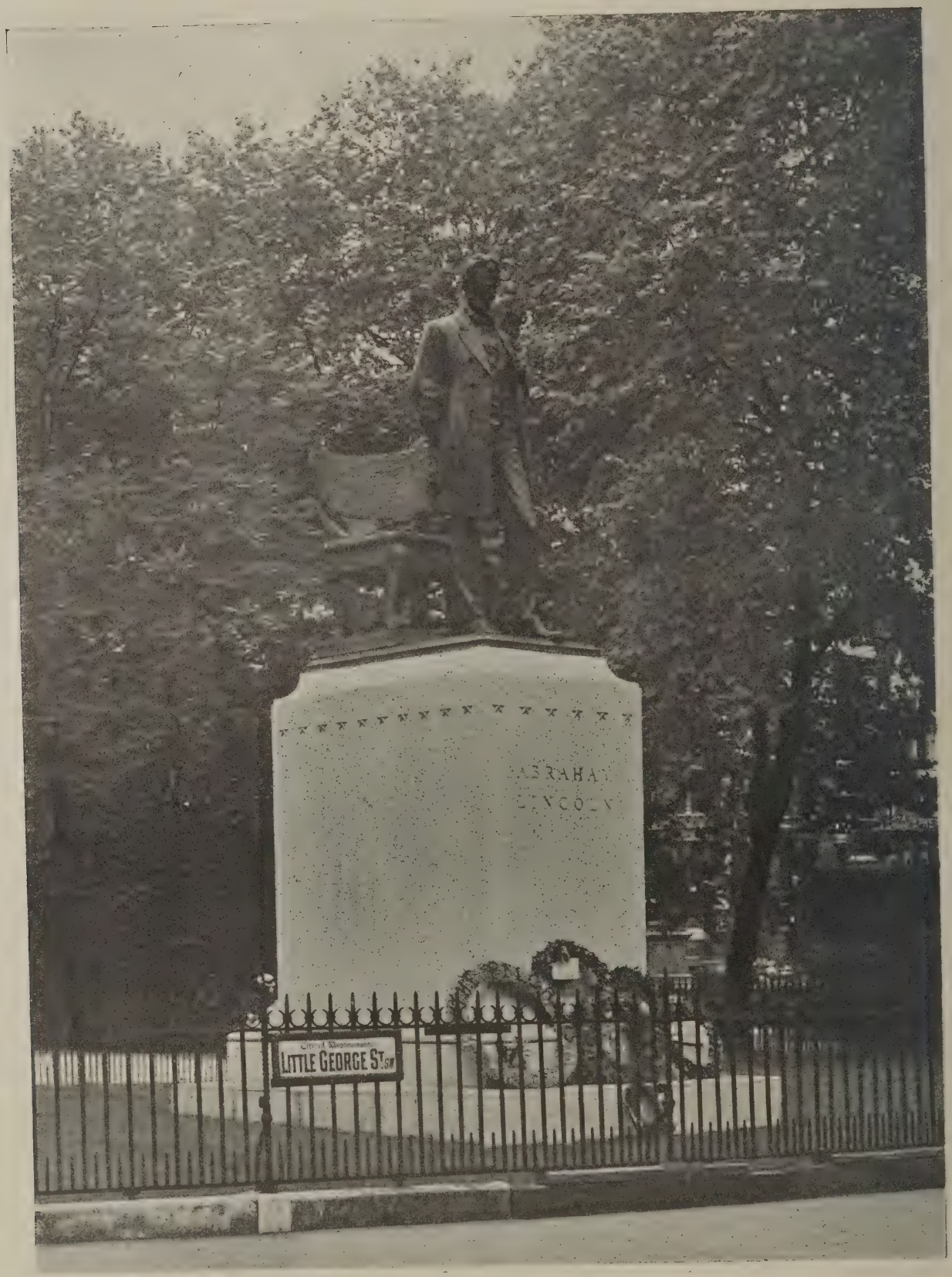
With which is incorporated "The Builders' Journal"

M. Henri Paul Nénot in his youth displayed such extraordinary interest in architecture that, at the early age of thirteen, he was placed in the atelier of M. Lequeux. At fifteen he entered the Ecole des Beaux-Arts. His studies were abruptly interrupted in 1870, when, immediately on the outbreak of war, he enlisted, fought valiantly against the Germans, and received the Military Medal. Working in the atelier of M. de Questel and in the office of Charles Garnier, at the age of twenty-four he won the Grand Prix de Rome. He has carried out many fine works of architecture in France and Belgium, his *chef d'œuvre* being the Sorbonne, Paris. M. Nénot received the British Royal Gold Medal in 1917.

27-29 Tothill Street, Westminster, S.W.1.

Monuments. 2.—The Lincoln Statue, Westminster

Augustus Saint-Gaudens, Sculptor



The above view of the Westminster statue of Lincoln should be compared with the illustration of the original monument published in our issue for August 4. The pedestal upon which the Westminster figure stands is quite twice the height of the same feature in the original work, and in consequence the statue itself is thrown completely out of its proper scale. Fortunately the present base is only temporary, and the mistake may yet be rectified.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.
Wednesday, August 18, 1920
Volume LII. No. 1337

Notes and Comments

Crisis in the Building Industry

IT is the fate of all Parliaments to suffer dissolution. Whether that of the so-called Builders' Parliament is imminent it would be rash to hazard an opinion. As the report given in a later page makes rather ainfully clear, the Parliament was for awhile actually n the brink of disruption; and we must confess that we ever had much faith in its ability to keep together as riginally constituted. Its composition follows too closely ne lines of the "tug-of-war" game, to which it is conderably inferior in the matter of good feeling. mployers and employed ranged on opposite sides are much more likely to quarrel than to arrive at fair and ist decisions that early disruption not only seems proable now, but might have been pretty safely prognostited at the very outset. Scarcely veiled hostility and utual distrust have pervaded most of the proceedings, id strongly one-sided reports have been met by strong ssent. Finally, at the meetings held in London last eek-end, employers and employed were in diametric position, the former, however, opening the door to mpromise on the somewhat drastic proposals of the anagement and Costs Committee, whose report was entually remitted to the regional and local areas for nsideration and report. This Management and Costs ommittee's report was the rock upon which the Parliaent narrowly escaped becoming a total wreck. It was gned by Messrs. Thos. Foster (chairman), William oss (vice-chairman), John F. Armour, John Batchelor, P. Cox, L. McDonald, R. Jones, Malcolm Sparkes, . Williams, and Robert Wilson; and was repudiated a minority report signed by Messrs. S. Smethurst, G. Whittall, R. B. Chessum, H. T. Holloway, and Rome. At the meeting, there were tense moments en it seemed that nothing could prevent the immete disruption of the Industrial Council for the Build- Industry. The majority reporters state that "the scussions on the interim report have revealed the sibility of agreement throughout the whole industry cerning our proposals for the regularisation of demand, decasualisation of labour, unemployment, and holi- pay, superannuation, and a minimum system of ountancy and costing"; but the minority reporters lare themselves "irreconcilably opposed to the basic iciples of the majority report," which they regard as attempt to socialise the industry, to eliminate the oyer as we have known him in the past, in favour system of which the world has no recorded experi- of its having been successfully applied." The objec- refers mainly to the proposal, in an appendix to majority report, to adopt the system of building ds, national and local, and the former to be coned in the wholesale transactions of purchase, manure, and supply; the latter to engage in the actual k of building. In short, the majority report would up complete democratic control and eliminate the employer. Some of the minority reporters suggested experiments on the lines of the majority report, but this tentative proposal found little or no support from the other side, who seem to be fascinated with the speculative dangers of a leap in the dark, and determined to take it though ruin befall. Much safer is the position of the minority reporters, who maintain that the interests of the industry and of the general community would best be served by closer co-operation between employers and employed, with the vitally essential object of producing wealth enough in things for consumption to give abundance to all who will work, besides providing a surplus for extension and renewal of plant. Given the wealth to distribute, the majority reporters would consent to an equitable means of sharing it. They plead for agreement "in the spirit of true co-operation and mutual confidence." As we have seen, the spirit on this question has brought about a serious crisis, which the constitution of the "Builders' Parliament" is hardly strong enough to endure. The employers' representatives, in refusing to be nominated to the committee which was to be appointed to deal further with the matter, showed no more recalcitrancy than the workers' representative, who had been instructed very definitely that in no circumstances would the carpenters and joiners take part in any committee which seeks even to investigate such matters as dilution of labour and the introduction of piecework. To be ostentatiously obstinate has been ever the darling vice of employers and employed in labour disputes. It is a luxury for which both parties, and the community at large, in so far as its interests are involved, pay very dearly. We are sorry to see it rampant in the Builders' Parliament, for it is the negation of calm and judicial discussion, which we take to be the object for which the Parliament was formed. If it is really incompetent to perform this function there will be no reason to continue its existence; but we are ardently hoping for its immediate return to sanity. For it will neither live to itself nor die to itself. Its example, for good or for evil, will have a tremendous effect on the very grave industrial situation which has been created by the recent open threats of trade-union leaders to plunge the country into untold misery unless the Government will do as it is told; and it is this dictatorial spirit which is wrecking the Builders' Parliament.

London University Site

What is the nature of the hitch with respect to the fine site offered by the Government to London University? Why do the Senate hesitate to close with so magnificent an offer? Their reluctance puts them in a very unenviable position. We should be sorry to think them a timorous body, destitute of energy and enterprise, and unable to rise to so splendid an occasion; but why are they dallying with a proposal which they might have been excused for seizing with precipitate haste? They

should at least speak out about it. To take the public into their confidence might remove a growing impression that the Senate has a mean conception of the future and functions of London University. Mr. Austen Chamberlain's solemn warning that unless the Senate comes soon to a definite decision the Government offer will be withdrawn should stir to immediate and energetic action this seemingly somnolent body, which does not seem to realise that to go on living in lodgings instead of setting up a noble home of its own is a disgrace to London University. Londoners already share in that disgrace, but they may wipe it out by doing all that can be done to bring the Senate to its senses.

Exemplary Street Labels

The street-label problem has been solved with fair success in Aberdeen. They form the label of glazed tiling, which is let into the wall at the beginning of each street. One tile, one letter, is the rule, so that if a letter gets damaged, another can be got from stock; and there is never a street in all Aberdeen that is not conspicuously labelled; would that the same could be said of London! What is even more agreeably surprising is that the common mistake of putting dark letters on a light ground is avoided. In Aberdeen, where tombstones are cut wholesale, retail, and for exportation, and the art of lettering has been brought to great perfection, the subject seems to have been studied scientifically. It is evidently well known that a light ground simply swallows up a dark inscription. To be in the highest degree legible, the lettering must be light, on a dark ground which "throws it up." Not only in the street-labels, but on nearly all the shop fasciæ in Aberdeen is this point observed, with great gain in legibility and effect. In London, ignorance of this well-ascertained optical law seems prevalent everywhere except on the Underground Railway, where the names of the stations are in light lettering on a dark ground. This excellent example, however, has been very little followed by the London Local Authorities.

"Do Workers Want Trouble?"

What is the matter with building trade workers? A writer in "Ways and Means" bluntly declares that "they do not want houses; they want trouble." Their attitude, or that of their spokesmen, supports this theory. First they would not get on with housing, lest, having got through the job, they would lack employment. A guarantee of work for five years, and of payment for enforced idleness, disposes of that grievance, but the workers, or their misleaders, instantly produce another. They profess to be scandalised to think that any building except that of houses for workers is allowed to go on. Concede them this impudent point, and you shall find that they have still other and, if possible, still more fatuous grievances up their sleeves. They are not to be satisfied. They want the earth; and if they got that, they would clamour for the moon. The more they get, the more they will demand, and it is quite time to call a halt to their outrageous rapaciousness. Against the mere foolishness of forbidding all kinds of building except houses we have frequently protested, whether the nonsense has come from Ministers or mechanics, and we are glad to find that in this matter our contemporary is in full agreement with us. "We believe," he writes, "that working-class homes are no good unless they are mixed up with the necessary proportion of factories, warehouses, offices, shops, and cinemas, all of which are essential parts of the scheme of life of the working man himself." But, really, the so-called working man's "scheme of life" would, on current evidence, seem to exclude all places in which he would be expected to work. But the genuine worker is less to blame than the false friends who incite him to these mad courses.

A Haunted House Demolished

Sherard House, in the High Street of Eltham, Kent is being demolished to make room for business buildings It is of the seventeenth century, and one will be sorry to lose it; but the tramways are being extended through Eltham, which, from being a pleasant and quiet village will soon become a noisy town. In anticipation and furtherance of this unhappy transformation, the beautiful old houses are disappearing, among them Sherard House, which was reputedly haunted by the ghost of a beautiful woman, whose murdered body, so the story goes, was taken through an underground passage and thrown into Eltham moat. There were sturdy old oak beams in the house, and it is stated that the oak panelling, staircasing, and other interior treasures have been bought by an enterprising American. It is not recorded whether he has bought the ghost as well "Alas, poor ghost!"

Practical Geometry

Some architects shun geometry like the plague. Yet properly approached, it can be made a most interesting as well as a most useful study for all who build. Since the banishment of Euclid from the schools, geometry has been taught much more rationally; and a writer in "The Times Educational Supplement" shows how modern methods applied to its teaching have transformed it "from a catalogue of facts to a valuable and an interesting part of the curriculum of an elementary school." He begins by using cardboard shapes, which seen as entities that can be handled and brought together in various relations, are so much more impressive than mere lines on paper can be. The elder boys make for their own use simple protractors of stout cardboard, and with this they construct interesting objects, such as a clock-face. Thus the study is made real to them, the principles of geometry ceasing to be arid abstraction This method of study follows that which was so successfully practised half a century and more ago by that first mathematician Augustus de Morgan, the father of William de Morgan, artist in tiles and author of novels It is therefore not new, but the fact that it is being intelligently applied augurs well for the coming generation of craftsmen, especially those in the building industry.

Endowment of Technical Science

Technical education at our older universities is decidedly looking up. It is being stimulated both from within and without. The announcement that the British Thomson-Houston Company, Ltd., has decided to establish two scholarships, one of which will be allotted to Cambridge, is an interesting case in point. Ordinarily the founder of a scholarship is content to provide the money and take no further interest in the matter, but in the present instance the founders follow it up by sending their scholar to America, where he is expected to acquire experience that shall be of use to the British company. If many other firms would display the same public-spirited generosity, and an equal degree of practical wisdom, scientific education would be immeasurably broadened and deepened; but we should like to see them pool their efforts, and promote the higher education in technical science regularly and systematically. What conditions, if any, the Cunard Steamship Company may have attached to their handsome donation of £10,000 to the Liverpool University appeal fund we are unaware; but none accompanies the still more munificent contribution of £100,000 to the same fund by Messrs. Brunner, Mond and Co., except that the money shall be used for the general improvement of scientific training; but the example nevertheless encourages optimism as to the future of practical scientific training in this country.

The Building Trades Parliament Crisis

Employers v. Operatives

DURING the sitting of the Building Trades Parliament on Thursday and Friday, the report submitted by the Management and Costs Committee caused much angry discussion and some bitterness of feeling between the employers' and the operatives' sides of the House. Indeed, the Parliament at one point came near to dissolution.

The report comprised the recommendations of the majority of a special committee, set up by the Industrial Council, and was accompanied by a minority report, signed by five employers, in which they said they were opposed to the basic principles in the report, although they approved of many proposals. The minority felt that the operatives should abandon their intention to Socialise the industry and eliminate employers as such, and guaranteed in return such a consideration in the shape of increased production as would justify the consumer in consenting to some of the provisions in part of the report. The majority report was upon the question of organised public service in the building trade, and in considering it the Committee "became more and more impressed with the immense possibilities lying latent in the new system of industrial self-government, implied in the constitution of our industrial council." The Committee were concerned at "the fear of unemployment; the expressed disinclination of many of the operatives to make unrestricted profit for private employers; the lack of interest in the industry evidenced by operatives, owing to their non-participation in control; and inefficiency both managerial and operative." In Part II. of the report the Committee stated: "We believe that the great task of our Industrial Council is to develop an entirely new system of industrial control by members of the industry itself, and to bring them into co-operation with the State as the central representative of the community, whom they are organised to serve. Nothing short of this will produce the full development of the 'team spirit' in industry, which is the key to the whole problem of production."

The report itself was not technically under discussion when the high words arose. The proposal before the Council was the re-appointment of the Committee. This business should have come on after the submitting of the report, but owing to the report of the Re-settlement Committee having been held over, the election of officers and committees was proceeded with.

Mr. R. B. Chessum, one of the signatories to the Committee's minority report on organised public service, moved from the employers' side of the House that the old Management and Costs Committee be not re-elected. From the angry discussion which ensued, it became quite clear that the employers, as a body, disapproved of the majority report so strongly that they were not prepared, as matters stood, to be represented on the Committee any longer. The resolution was subsequently amended to read that the re-appointment of the Committee should not take place until after the report had been discussed, but upon being put to the meeting it was lost by a large majority.

The operatives then re-elected their representatives on the Committee, but when the Chairman asked for nominations from the employers, there was no response. Mr. Baron, the new vice-chairman of the Council, and a representative of the Carpenters' and Joiners' Society, said that that had set up a crisis. He was not a revolutionary by any means, but there was nothing in this report that should upset the employers to the extent they had. He moved the indefinite adjournment of the Council. The motion was seconded, but a vote which, if carried, would have had the effect of disbanding the Council, was avoided.

Several of the operatives' representatives pleaded that the framing of the men's aspirations in a document which was open to further discussion, and which was incapable of early translation into policy, should not be permitted to break up a Council which had the capacity of beneficial industrial legislation. These arguments did not wholly prevail, and eventually the critical position was postponed until Friday.

Mr. T. Foster, Chairman of the Committee, on Friday submitted the report. The Committee recommended:—

1. That the operatives should not lose pay through stress of weather conditions.

2. That the employers and operatives shall pay d. per week extra in order to do away with the waiting period of six days in the present Insurance Act.

3. That the cost of providing pay for time lost through stress of weather should be partly provided by a system of insurance.

4. That each employer shall carry his own lost time up to 2½ per cent. of his total wages bill per annum in the trades affected, and shall be entitled to recover from a fund established under this scheme for all time lost through stress of weather in excess of 2½ per cent. on the wages in such trades.

5. The fund should be created by means of a supplementary scheme under the Unemployment Insurance Bill, 1919, through a special stamp, approved by the Minister of Labour, for the use of the building industry. The value of this stamp would cover the liability for unemployment, and for the six days waiting period under the Act as well as this special liability.

Their recommendations were, therefore, that operatives should draw their full pay when prevented from working through stress of weather while holding themselves at the disposal of their employer, and that part of the cost of this should be carried separately by each employer and the rest by all employers in the industry collectively.

Mr. Foster added that what the public would have to pay would be amply repaid in value.

Mr. R. B. Chessum thought that the salvation of unemployment was in industry. He was strongly opposed to payment for wet time, which would sap away the integrity and morality of the men.

Mr. McPherson (operative) said that in this respect the men had a real grievance, and they would not do their best and put their backs into their work until the employers removed the grievance.

An amendment to remit the question for consideration of the constituent areas was defeated, only the employers' representatives supporting it. Protest that the voting was unfair in the absence of several of these representatives was replied to by Mr. Foster, who expressed the hope that the Council would not become only a talk shop. In subsequent discussion several employers repudiated the suggestion that they did not care for the conditions regulating the industry, but held that it would be suicide were they to accept all these proposals, and urged that no delay would be caused by a reference to submit the question for approval of the bodies for which they spoke and which had not had an opportunity of seeing the report. The vote was rescinded, and the report was remitted to the areas for consideration and report.

Consideration of the report of the Management and Costs Committee in favour of a scheme of democratic control of the industry was adjourned until the next quarterly meeting, to be held in London on November 11 and 12.

The Week's News

Architectural Partnership Dissolved

The partnership has been dissolved between Messrs. F. Wheeler and C. R. B. Godman, architects, of Bank Chambers, Horsham, Sussex.

Wallsend Housing Scheme

The Mayor has laid the corner-stone of eighty houses on the Holy Cross site. The housing scheme of the Corporation is estimated at £2,500,000.

The Donaldson Silver Medal

The R.I.B.A., on the recommendation of Professor A. E. Richardson, F.R.I.B.A., have awarded the Donaldson Silver Medal to Mr. R. C. White-Cooper, a student of the University of London.

Wigan Building Guild Contract

Wigan Corporation has accepted the Building Guild contract, amounting to upwards of £130,000, in connection with its housing scheme on the Beech Hill site. Under the scheme 135 houses will be erected, the Building Guild contract prices for the three types of houses being £900, £1,025, and £1,075 respectively.

Building Council's Election of Officers

At the annual Building Trades Parliament, held in London last week, the chairman, Mr. J. Storrs, J.P., was re-elected, and Mr. T. Baron was elected vice-chairman in place of Mr. A. G. Cameron, resigned. Other officers elected were: Messrs. A. G. White and W. Bradshaw, joint secretaries; and Mr. J. Batchelor, treasurer.

Luxury Building

Dr. Addison has stated in the House of Commons that according to returns received from local authorities the number who had taken action under the powers relative to the restriction of luxury buildings was sixty-five. He thought experience had shown that these powers required strengthening, and he intended to lay proposals on the subject before Parliament at an early date.

Bury Architects and a Housing Scheme

The decision of the Bury Rural District Council to appoint the Assessment Committee's valuer as architect for the Council's housing scheme has resulted in a protest from the Bury Society of Architects. The Society states that consideration ought to be given to practising architects, and suggests that the proposed scheme might be carried out by the Society, who would be able to concentrate the ability of its members on the scheme.

South Manchester Town Planning Scheme

Work has commenced on a portion of the Town Planning Scheme for South Manchester to facilitate the large housing scheme now being carried out by Sir R. M'Alpine and Sons. The work in question is the construction of a road 100 ft. wide—the first of this width constructed in the city. The scheme as a whole has not yet received the sanction of the Ministry of Health. A public inquiry, which will precede sanction of the expenditure, is to be held in September.

"Luxury Building" Protest

Local authorities in the East Midland area, at a meeting to consider housing problems, asked for increased powers to prohibit "luxury building," and urged the necessity of adding to the numbers employed in the building trade. The conference arranged by the National Housing and Town Planning Council, transmitted the following resolution to Dr. Addison: "This conference is strongly of opinion that the fact that not more than 10 per cent. of labour in the building trade is concentrated upon housing schemes of local authorities constitutes a public scandal, calling for the urgent action of the Government."

Ancient Mansion for Lichfield

Sir Richard Cooper, Bart., M.P. for Walsall, has presented the ancient mansion and lands in the centre of Lichfield, known as The Friary, to the City Council. The Friary, which is surrounded by 11½ acres of land, anciently belonged to the Franciscans, and was founded about 1229, but was destroyed by a fire which also consumed a great portion of the city, in 1291. The present mansion was erected in 1545 and has interesting Johnsonian associations.

London University

Mr. Chamberlain has stated in the House of Commons that the purpose of the offer of the Bloomsbury site to the University of London was that the university might be enabled to rise to the high level of its opportunities as the metropolitan university of the Empire. This purpose would not be secured by the selection of a site at Highgate, and His Majesty's Governmen would not feel justified in incurring extraordinary expenditure on behalf of the university, which woul not achieve the objects desired.

Taymouth and Gosford Castles

Two Scottish castles—Taymouth and Gosford—ar on the market. Taymouth Castle is a large grey struc ture of slate, with round towers at the angles, surmounte by a central block, while two wings, that on the south west being a remnant of the old castle restored, projec from the main building. The place was originall founded by Sir Colin Campbell, of Glenorchy, scion o the house of Argyll, and the present castle, built earl in the nineteenth century, and added to in 1842 an 1879, though standing in the bottom of the valley, ha lovely surroundings. Queen Victoria and the Princ Consort occupied a suite of apartments at the castle o their first visit to Scotland in 1842. Gosford Castle wa erected about 120 years ago at a cost of £250,000.

Registration in South Africa

Owing to the difficulty of arriving at a settled financi arrangement with the profession in the Transvaal th Cape Institute of Architects, according to their annu report, have made practically no progress with the pr posed Registration Bill. Until these arrangements a definite, the Institute state, it is impossible to proceed It is pointed out that the Society of Architects (S.A Branch) is "of opinion that the best course to take woul be to have the Transvaal Act extended to the rest of th Union with necessary amendments, a policy which th Cape Institute has been advocating from the first. A this was only an expression of opinion from one of th Transvaal bodies it could not bear immediate fruit, b it is hoped that the profession as a whole will see th advantages of this method of procedure. Anoth incident during the year ought to make the profession mind turn to registration, i.e., the proposal of the Pr vincial Council to tax the profession. The questic immediately arises: are we to get a *quid pro a* for this taxation or is it to be purely a bit of cla legislation?"

War Statues

The Government Committee entrusted with the sele tion of sites for statues in London has decided that the Horse Guards Parade, S.W., there are to be thr monuments to generals and one to a distinguishe admiral. Lord Wolseley's memorial is already position, and that of Lord Roberts is about to be erecte

The other two will probably be Lord Kitchener and Lord Fisher. A semi-concrete building in the nature of a memorial to fallen sailors and soldiers is to be built at the western side of the Horse Guards Parade. The Guards' memorial will be near Wellington Barracks, and that of the Marines and Naval Mercantile Service will probably be at the north side of the parade. The House of Commons have decided to commemorate the fame of Mr. Joseph Chamberlain by the erection of a statue to him within the precincts of the Houses of Parliament.

Ancient Buildings and Monuments

Sir Alfred Mond, First Commissioner of Works, has appointed an Advisory Committee (1) to advise on the question of amending and strengthening the existing Ancient Monuments Act, and (2) to consider whether the powers conferred by Parliament should be widened, so as to include advisory powers over ecclesiastical and secular buildings, which are still in occupation. The Committee, which is purely an advisory body, consists of Lord Beauchamp (Chairman), Lord Ferrers, Sir Martin Conway, M.P., Lieutenant-Colonel James, M.P., the Right Rev. Bishop Browne, Sir Hercules Read, Sir Lionel Earle, and Mr. Peers, the Chief Inspector of Ancient Monuments.

Proposed Obelisk for Gallipoli

The Gallipoli War Memorial Committee, at the House of Commons, have considered a report from the sub-committee appointed to consider designs and sites. The sub-committee recommended that the memorial should be placed at Cape Tekke Burnu, at the south-western extremity of the peninsula. The design recommended is that of Captain Douglas, R.N., for an obelisk, 67 ft. high, constructed of white marble. The committee decided to defer an appeal to the public for funds pending the decision of the Government regarding the erection of a memorial at the expense of the State as part of the general scheme now under consideration.

(*Concluded on page* xv.)

Architectural Causerie: A Forgotten Architect

FROM time to time old prints and engravings are discovered revealing the interest attaching to the first half of the nineteenth century. Such information has the additional value of recording the names of forgotten architects, thereby completing the circumstantial evidence of the period and strengthening the history of the whole tradition. In the character of the façade of the Royal Western Hotel, we see an original composition of the Ionic and Corinthian orders arranged in two stories of almost equal importance. Though the horizontal sub-divisioning of the front approaches equality, it is nevertheless good, for the over order projects as a screen between the end masses, which accentuates the vertical effect of the latter, and a play of line results, effective and simple, but extremely daring.

* * *

An old guide to Bristol of 1849 contains the following announcement, which has the flavour of an eighteenth-century advertisement:

HAM'S ROYAL WESTERN HOTEL,
New College Green,
Bristol,

offers superior accommodation in Suits of Apartments, handsomely fitted up and combining every comfort for Families, with Coffee and Commercial Rooms, not surpassed by any House in the Kingdom, to which the Travelling Community are respectfully solicited.

Baths, Warm, Cold, Vapour, and Shower, in the House.
Omnibuses to and from every Train.
R. P. Ham, Proprietor.
Turtle and Wine Merchant.

* * *

The refined detail, no less than the restrained design, renders this building a worthy compeer of the Queen's Hotel at Cheltenham, the Stamford Hotel at Stamford, and the Royal at Plymouth. The architect, R. S. Pope, had a great deal to do with the buildings in Bristol. He restored the Chapter House of the Cathedral in 1833,

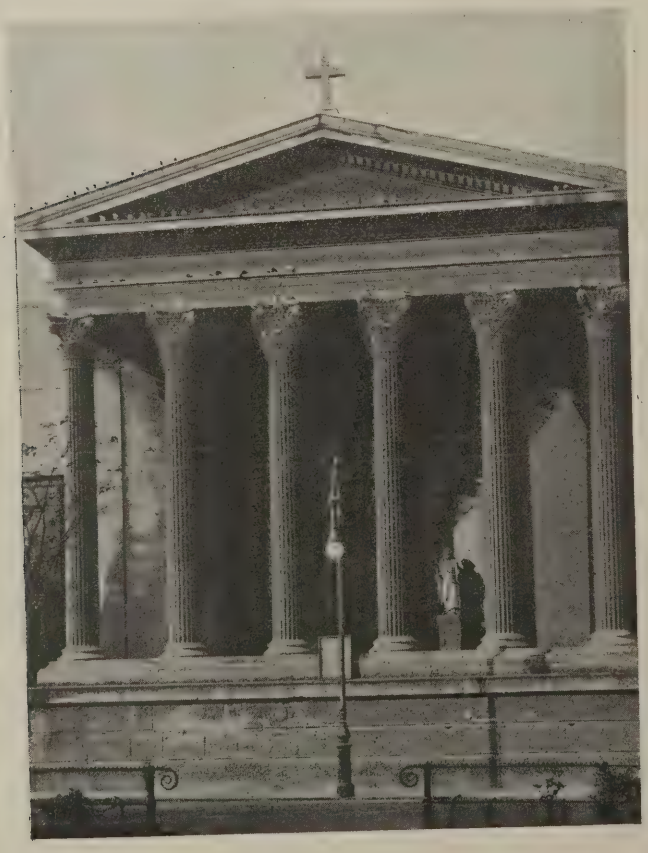
THE ROYAL WESTERN HOTEL, BRISTOL. R. S. POPE, ARCHITECT.

INTERIOR OF ST. MARY'S, ON THE QUAY, BRISTOL.

built the delightful church of St. Mary's on the Quay in 1839 (see illustrations), carried out works at the Guildhall five years later, designed and erected the Baptist Chapel at Clifton in 1842, and effected repairs to the Gaol.

* * *

His other works comprise the following: The Bridewell, 1832; the central police station house; the Cattle Market, 1830, on a site four acres in extent with a trotting course 420 ft. long by 30 ft. wide; the Meat Market, 1848-9; and the Vegetable Market in 1855. In 1856 he erected a new bank for Messrs. Stuckey, and there is strong reason to believe that he was associated with the design of the fine houses in Lansdown Place, Clifton, and the equally noble range called Worcester Terrace, Clifton. Illustrations of these groups are given on page 179. AERO.



ST. MARY'S, ON THE QUAY, BRISTOL. R. S. POPE, ARCHITECT.

Registration in U.S.A.

THE statutory requirements with regard to the practice of architecture throughout the United States are shown by the following interesting synopsis, which is reprinted in the current number of the Journal of the Society of Architects from a handbook issued by the New York University. There are four distinct lines of statutory requirements: (1) Preliminary education; (2) professional training; (3) licensing test; (4) registry. These four items with (5) the title of the executive officer and the administrative board, are given uniformly in this synopsis. If there are no statutory requirements the word "none" covers the item.

CALIFORNIA.—(1) None; (2) none; (3) examination (4) with the Recorder of the county of residenc annually; (5) Secretary, State Board of Architecture Northern district, Sylvania Schnaillacher, 1,039, Phela Building, San Francisco; Southern district, Frederic L Roehrig.

COLORADO.—(1) None; (2) none; (3) examination o certificate from a similarly constituted board of anothe State; (4) with the Secretary of State, and annuall with the Board; (5) Secretary, State Board o Examiners of Architects, T. Robert Wiegen, 432 Empire Buildings, Denver.

IDAHO.—(1) Approved high school course or i equivalent, and in addition a two-year course i English and mathematics such as is required in a approved B.A. course; (2) three years' practic experience in the office of a reputable architect; (examination or, alternatively, graduation from a approved architectural school or registration as a architect in another State whose standard equals that this Board; (4) with the Secretary of the State; (Secretary, State Board of Examiners of Architects.

ILLINOIS.—(1) None; (2) none; (3) examination; (with the Clerk of the county of practice, annually: (Secretary, Department of Registration and Examin tion, Francis W. Shepardson, Springfield.

LOUISIANA.—(1) Good primary education; (2) non (3) examination or diploma from an approved school architecture; (4) with the District Court Clerk of t parish of residence, and annually with the Board; (Secretary, Board of Architectural Examiners, Char A. Favrot, 305, Baronne Street, New Orleans.

MONTANA.—(1) None; (2) none; (3) examination a licence from another State Board; (4) with the Cle and Recorder of the county of residence, and annua with the State Treasurer; (5) Secretary, Board of Arc tectural Examiners.

NEW JERSEY.—(1) None; (2) none; (3) examination a licence from a similarly constituted Board of anoth State, or membership of the American Institute Architects; (4) with the Board, annually, and with t Secretary of State; (5) Secretary, State Board of Arc tects, Hugh Roberts, First National Bank Buildin Trenton.

NEW YORK.—(1) Approved high school course or equivalent, and in addition such courses in mathemati history, and one modern language as are included in approved two-year B.A. course; (2) at least five ye practical experience in the office of a reputable arc tect; (3) examination or graduation from an approv architectural school, with three years' experience registration in another State or county having standa equal to that of this Board; (4) with the Board Regents; (5) Secretary, State Board of Examiners Registration of Architects, William P. Bannister, Wall Street, New York.

NORTH CAROLINA.—(1) Prescribed by the Boa (2) prescribed by the Board; (3) examination or a cer cate from a similarly constituted Board in another S

The Proposed Power House on the Erne, for the Irish Hydro-Electric Syndicate, Ltd.

D. A. Beveridge, Licentiate R.I.B.A., Architect

That utilitarian buildings may yet be fine architecturally is convincingly demonstrated by this design. The walls are to be of local grey stone with concrete backing. The generator hall will be of French stuc plaster for the walls and ceiling with a dado in opalite or marble slabs. The floor will have a dustless surface. Steel principals, covered with red reinforced concrete slabs interlocked, will be used for the roof. There will be no woodwork in the building.

UNIVERSITY OF ILLINOIS LIBRARY

SEP 1 4 1920

TERRACES OF HOUSES AT CLIFTON, BRISTOL. R. S. POPE, ARCHITECT (?).

membership of the American Institute of Architects; with the Clerk of the Superior Court of the county of idence; (5) Secretary of the Board of Architectural amination and Registration.

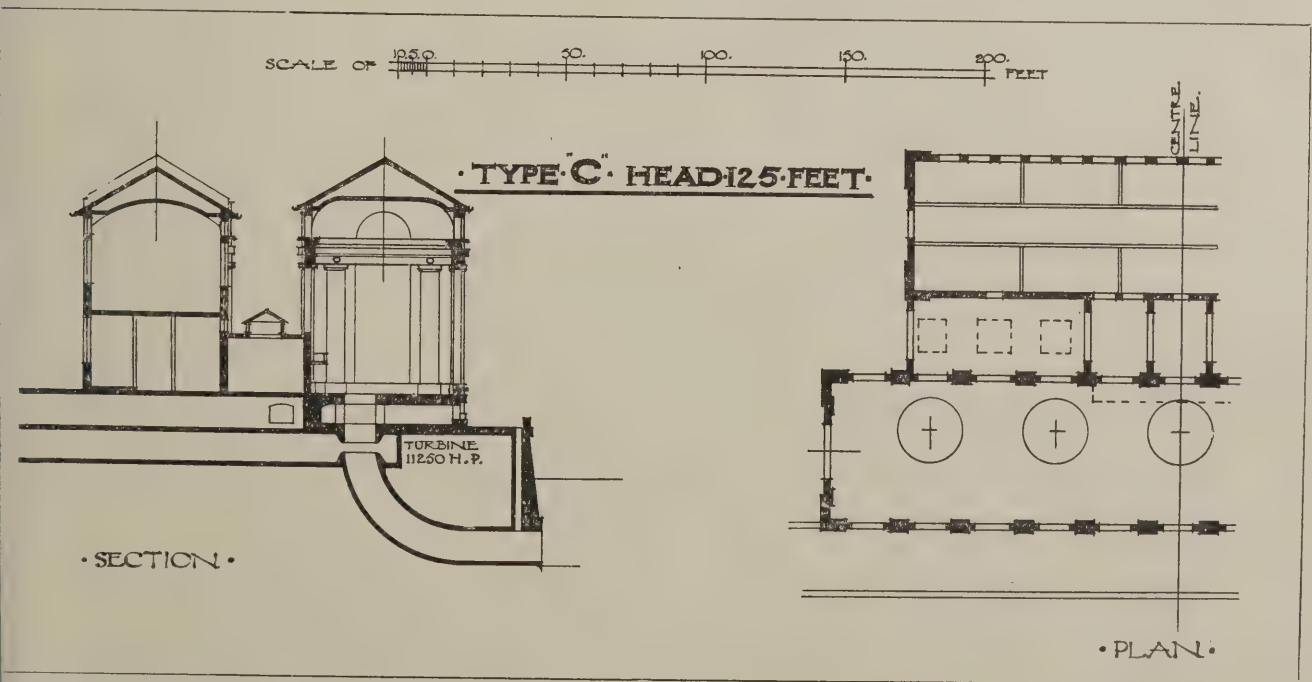
NORTH DAKOTA.—(1) Approved high school course its equivalent; (2) three years' practical experience he office of a reputable architect; (3) examination or cence from another State Board whose standard als that of the Board, or membership of the American titute of Architects; (4) with the Secretary of State, annually with Board; Secretary, State Board of hitecture, Arthur Van Horn, Bismarck.

OUTH CAROLINA.—(1) None; (2) at least two years' erience in architectural work; (3) examination or duation from an approved school of architecture; (4) the Board, annually; (5) Secretary, State Board, hitectural Examiners, George E. Lafaye, Columbia.

JTAH.—(1) None; (2) none; (3) examination; (4) the Board, annually; (5) Secretary, State Board of hitecture.

WISCONSIN.—(1) None; (2) at least five years' practical experience in the office of a reputable architect; (3) examination, or a satisfactory certificate from a recognised architectural school, with three years' registration with the Board of another State or county whose standards are not lower than those of the Board; (4) with the Industrial Commission; (5) Secretary of the Board of Examiners of Architects, Arthur Peabody, State Architect, Madison.

An analysis of the above shows that out of thirteen States which have statutory registration, nine have no definite standard of preliminary education, two require the equivalent of a B.A. degree, and two a good primary standard. In regard to professional training, eight have no standard, and the rest rely on three to five years' pupilage. The licensing test is in every case by examination, with the alternative in eight instances of a course at an approved architectural school, or a certificate of registration in some other State of equal standing, or membership of the American Institute of Architects.



PLAN OF PROPOSED POWER HOUSE ON THE ERNE. D. A. BEVERIDGE, Licentiate R.I.B.A., ARCHITECT.

The Industrial Council for the Building Industry: Annual Meeting

THE annual meeting of the Industrial Council for the Building Industry was held in London on Thursday and Friday of last week, Mr. J. Storrs, J.P., president, occupying the chair. The treasurer's report was passed, and the sum of £2,000 for the ensuing financial year was voted.

The Secretary (Mr. A. G. White) reported that at a conference the Executive Council had at the Ministry of Labour on August 4, the building trade representatives were asked to examine certain Government proposals to expedite housing. They promised to report the matter to the Council that day, with the recommendation that the conference should appoint a committee to consider the proposals.

Mr. E. J. Brown (London) proposed that a committee be appointed consisting of twelve members of the Council, with instructions immediately to consider the Government's proposals and report to the Council at their meeting on Friday. If the committee came to any conclusion, they would have done everything that the Building Trades Parliament could be expected to do. He did not think they would get unanimity over the Government's proposals, but they would have the opportunity of hearing suggestions from all sides.

Mr. Easten (Newcastle) seconded, and said that before and since the proposals were made paragraphs had appeared in the Press that had created an entirely wrong impression, and the proposals should be published so that the public could judge for themselves.

Mr. Baron (Carpenters and Joiners) said that he might as well say there and then that they would take no part in any committee set up to consider suggestions that had been put forward in the papers. Whatever they were, it was said the proposals dealt with dilution and the introduction of piece work into the building industry. "We have been instructed very definitely," he said, "that in no circumstance shall members of my particular trade take any part in any committee which seeks even to investigate such matters, because we are assured by our members, and we are also assured by our own experience, that no good can come to our members by any inquiry into either of these two subects." Dilution, he proceeded, might result in attracting people into the industry who would find work for two years and then be thrown upon the scrap heap. In regard to piece work, whatever might be said of payment by results in some industries it was impossible to work it properly in the building industry.

An amendment was carried that the matter be referred back to the Resettlement Committee. A further amendment that that committee should not consider the question of dilution or payment by results was lost. The committee was asked to endeavour to report to the meeting on Friday.

The report of the Resettlement Committee was then submitted by Mr. Wilson, the chairman. Several members of the Council took exception to Appendix "A" and many voted for an amendment expressing disapproval of it. Eventually the entire report was adopted.

The early portion of the Report dealt with correspondence that had passed between the Committee and Dr. Addison, the Minister of Health, on the question of the distribution of housing contracts.

New General Powers Bill

We understand (the report continues) that the Ministry propose to lay before the House of Commons a new Bill providing, *inter alia*, for increased powers in relation to the prohibition of private building, and, having regard to the interest which the Committee naturally feel in any extension of the principle of priority as recommended by your Council prior to its embodiment in the Housing (Additional Powers) Act, we have formally requested the Ministry of Health to submit to us copies of the draft Bill before its introduction into Parliament, and to discuss with us any matters raised in relation to the building trade, as we understand that local authorities and others are demanding much more stringent powers of prohibition.

At your personal request, Mr. Chairman, we have considered a suggestion from the Committee, of which Mr. G. N. Barnes, M.P., is Chairman, and which is enquiring into the administration of the Employment Exchanges, that the Industrial Council should give evidence on behalf of the trade as a whole for incorporation in an interim Report to be issued early in August. We understand that the Employers' and Operatives' Federation respectively have received similar invitations, and, having regard to this fact and to the impossibility of taking the instructions of the Council in the time at our disposal, we have informed Mr. Barnes's Committee that the Industrial Council are not in a position to accept this proposal.

General Review

In reviewing out position at the end of two years' work as a Committee of your Council, the position arising out of the difficulty of obtaining an adequate supply of labour for housing schemes has undoubtedly been the outstanding feature, and in our endeavours to elucidate this difficulty we have been called upon to consider various suggestions and schemes and to make certain recommendations thereon. Generally speaking, we feel that our success from a constructive point of view has been distinctly disappointing, but we are at the same time bound to emphasise our profound conviction that far more tangible results could have been achieved had we received a fuller measure of support from the Ministry of Health. We feel acutely that the failure of the Ministry to operate the scheme as a necessary adjunct to the Priority Regulations, as approved by the Industrial Council, has placed us in a difficult, if not impossible, position in relation to the building trade.

As matters stand at present we are compelled to accept responsibility on the one hand for the assistance given to the department in the draftingof the Priority Regulations, and, on the other, we are compelled to admit that the department have not been able to enforce the contingent and agreed obligation of distribution thereby placing a restriction upon the dustry which, under the system at prese favoured by most of the local authoriti is in capable of making any useful additi to labour for housing purposes.

We have spared neither pains nor fra ness in endeavouring to induce the Mi try to carry out their obligations in t respect; but, generally speaking, we met with the reply that the Ministry h no control over the activities of the lo authorities, and that they have done that was possible to recommend them adopt the scheme, although we h repeatedly pointed out that their rec mendation has been of a merely formal half-hearted character, and might h been given with much greater weight the desire to do so been present. It is c that any recommendations issued with statutory force should have been vigoro followed up if any measure of success to be expected.

New Labour for Buildin

The Resettlement Committee's sch for inclusion in the building industr young men recently discharged from Majesty's Forces, or from reserved o pation; based on suggestions made to Council by Mr. H. R. Thompson Louth.

The scheme is put forward for serious consideration of the Council, it tention being to restore the personn the building trade by admitting y men who, but for the war, would no young journeymen or apprentices in final years, and to turn them out as cient members of the industry.

1.—*Term of Working Arrangemen*

That as the scheme is intended to an urgent need created by the war, agreed that it shall come into operati once, and shall continue in operation December 31, 1923, unless, prior t expiry of the period, it shall be conti from year to year by the instruction sanction of the Industrial Counci whom it shall be reviewed at June 30,

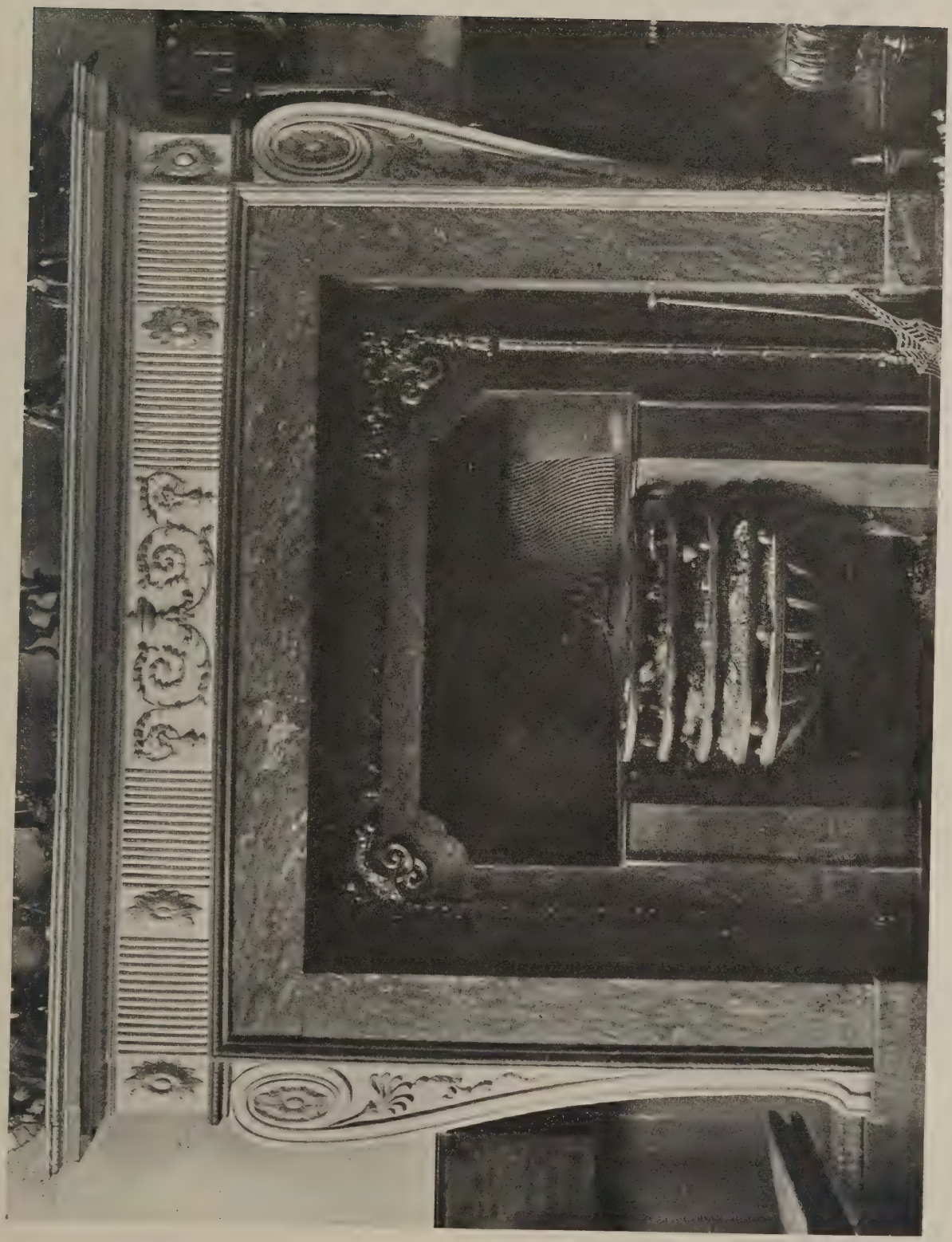
2.—*Persons to be Admitted and W to be Paid.*

That in every section of the buildi dustry during the period above men any firm recognising the authority Council, and offering suitable emplo for adult apprentices, may, subje Clause 7, accept any suitable young including labourers, offering them who have attained the age of ni years but have not attained the a twenty-six years. Provided that suc apprentices shall be accepted only terms and conditions as set out belo

3.—*Approval of Candidates.*

That where the industry is suffi organised, all applications shall ferred to and approved by a small Committee of Employers and Ope (selected from the personnel of the Area Councils or the District Area cils), which shall be set up in a loca this purpose. But all applications

Canonbury Place, London, N.



This chimneypiece, a typical example of late eighteenth-century design, is now in the Victoria and Albert Museum. The delicate character of the detail suggests the attribution to, or inspiration of, the Brothers Adam.

UNIVERSITY OF ILLINOIS LIBRARY

SEP 14 1920

er made, must be approved by the Com-ittee. The successful applicants shall be nployed only under such conditions and gulations as are set out below. These nditions shall also apply in districts ere there are no organisations.

etails of General Conditions.

4.—*General Conditions.*

(*a*) A probationary period of three onths without indenture at the same rate wages as for the first six months of in-nture.

(*b*) Following the probation, an inden-ed period of service to the particular de of three years for men apprentices o enter between the ages of twenty-three d twenty-six, and for four years for those tering between the ages of nineteen and enty-three. But subject to the condi-n that men apprentices exceeding the e twenty-two years at entry to be cepted only up to December 31, 1921, d those under that age at entry to be cepted up to December 31, 1922, at ich date entry by this scheme shall se.

(*c*) Hours and conditions to be observed the men apprentices shall be those eed locally in the industry.

(*d*) The indenture of service shall be h as is drawn up and approved by the lustrial Council, and the Chairman of above-mentioned Local Joint Com-tee shall act as third party to the inden-e (or the fourth where the circumstances uire).

(*e*) The minimum wages to be paid shall as follows, set out in the percentage of district rate applicable to journeymen the particular trade:—

Week.	For Three-Year Term.
1-3%	..... 1st six months of 1st year.
	..... 2nd six months of 1st year.
	..... 1st six months of 2nd year.
	..... 2nd six months of 2nd year.
	..... 1st six months of 3rd year.
	..... 2nd six months of 3rd year.

Week.	For Four-Year Term.
1-3%	..... 1st six months of 1st year.
	..... 2nd six months of 1st year.
	..... 1st six months of 2nd year.
	..... 2nd six months of 2nd year.
	..... 1st six months of 3rd year.
	..... 2nd six months of 3rd year.
	..... 1st six months of 4th year.
	..... 2nd six months of 4th year.

he wages shall be subject to review by foreman under whose superintendence adult apprentice is working and shall aised when in the foreman's judgment skill and ability of the apprentice so rve, provided that such increase shall nade at intervals of not less than four ths and that the man apprentice shall attain the full local journeyman rate pt during the last six months of his nture.

Tools necessary for such appren-shall be provided by the employer at commencement of the term and an in-ory and receipt taken from the man entice; they shall be paid for by him ng the last twelve months of his nture by such weekly instalments as be agreed upon, such instalments to educted from his wages.

The Joint Committee shall, say, at vals of six months, arrange for trade prepared by the appropriate com-e of the trade which the apprentice is ing and approved by such Joint Com-e, and the indenture shall provide each apprentice shall submit to same.

The Joint Committee at such trade test shall have the right to decide (*a*) whether the rate of wages paid after such test be increased beyond the scheduled rate, and (*b*), his eligibility for membership of the Operatives' Union, and (*c*) to see that the conditions of 6 (*b*) are being fulfilled.

5.—*Duties of Operatives in Relation to the Scheme.*

That operatives in all trades shall definitely co-operate and assist in the teaching of these men in order that they may speedily become efficient.

6.—*Duties of Employers in Relation to the Scheme.*

(*a*) That all employers should offer to employ some of these men and so take their share of the responsibility.

(*b*) That all employers who take such men into their employment should undertake that these men shall obtain variety in their training, and not always kept (say) on housing.

(*c*) That the employer shall undertake to pay the fees of any evening classes at approved technical schools which may be agreed as necessary by the Joint Committee as a condition of indenture.

7. That it be agreed by all parties to the Industrial Council that the maximum numbers of young men who may be invited and encouraged to enter the industry in this way shall be any number of suitable and approved candidates offering for each trade, provided that the total number of apprentices taken under this scheme for any one trade by any employer together with the boy apprentice he has in the same trade, shall not exceed the total number of apprentices allowed for that trade under any existing regulations governing the number of apprentices. Where no such regulations exist the admission of apprentices under the scheme shall be subject as to numbers to an agreement being entered into between the employers and the executive of the trade union concerned.

As already stated, the report, after a good deal of opposition, was adopted.

Correspondence

A. and S.A.P.U. Social Meetings

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—The Committee of the Metropolitan Branch of the Architects' and Surveyors' Assistants' Professional Union is considering a programme for the coming autumn. It proposes to commence with a "smoker" early in October. Other suggestions are a dance, a dinner, and papers on interesting subjects, not necessarily confined to architecture. A football club has also been suggested.

To make these social meetings a success the hearty support of our members is essential, and I shall be glad to receive the names of any who are willing to help us by performing at the concerts or by persuading talented friends to do so. I shall also welcome the names of any members who are keen on forming the football club. In fact, I shall be glad of any suggestion or offer of assistance to make these social events popular with the members.

THOMAS BILBOW,
Hon. Branch Sec.
Sanctuary House, 33, Tothill Street,
London, S.W.

Architects Provided by H.M.O.W.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—There is a paragraph in your current issue under the heading of "Direct Labour" which states in effect that H.M.O.W. are taking in hand many housing schemes for local authorities and are not only providing the material, but also the architects, etc. I do not know what "etc." includes—possibly quantity surveyors—but if the statement as to architects is official, there would seem to be some cause for a revival of the fears of the Society of Architects that this further extension of the scope and activities of H.M.O.W. will operate to the prejudice of the professional interests of many practising architects.

It would seem that architects and also the Housing Commissioners and their staffs, whose duty it is, I understand, to advise local authorities on housing questions, may be superseded by H.M.O.W. in cases where the Ministry of Health is not satisfied with the rate of progress of the local housing schemes. Architects already engaged in State-aided housing schemes would also suffer under such circumstances even if the unsatisfactory progress were due to delays of Government departments or other causes over which the architect had no control.

It is gratifying to hear that the employment of "direct labour" has resulted in an astonishing saving over contractors' prices for the erection of houses, but might not a still more astonishing saving be effected by scrapping Government housing departments and bodies, removing all legislative restrictions and Government control on building, and encouraging private building enterprise in housing under the auspices of unofficial architects?

I have no quarrel with H.M.O.W. or with the Housing Commissioners or with official architects, all of whom are the servants of the State, and have to act under instructions. What I strongly object to and protest against is the system adopted by their masters, the Government departments, of handing over housing schemes to official bodies and of publishing volumes of typical plans, specifications, and quantities in connection therewith.

Practising architects have to contend with quite enough unfair competition in the ordinary way without having their means of livelihood still further limited by the encroachments of Government departments maintained at the cost of the public, of which architects have to bear their share in taxation.

Not long ago at a Conduit Street conference I shocked the chairman by expressing the view that the large majority of architects enter the profession with the legitimate object of making a livelihood. I was told that this might be the case, but that I must not say so. I maintain that much legitimate professional work is lost to architects, and their standing prejudiced, by not recognising this point of view; and some of them are beginning to find it out. Personally I am out to promote and protect the professional interests of architects equally with the interests of the art of architecture, because I believe them to be inseparable.—I am, Sirs, yours faithfully,

C. MC. ARTHUR BUTLER,
Secretary of the Society of Architects.

Enquiries Answered

Dark Grey Cement.

E. R. (Rickmansworth) writes: "Would you kindly inform me how I may obtain a permanent dark grey or blue-grey colour in external cementing. Would the addition of fine clean breeze give me this result?"

—A permanent dark grey colour may be obtained by substituting smiths' ashes for sand in cement mortar, although there would probably be no harm in the use of fine breeze. A mixture of three parts of fine iron scale, three of cement, and two of clean river sand will give a bluish colour.

Henry VII.'s Chapel, Westminster.

SUBSCRIBER (Brighton) writes: "Having read with great interest the admirable article in a recent issue of THE ARCHITECTS' JOURNAL on the condition of Westminster Abbey, I should be greatly obliged if you would give me an architectural account of Henry VII.'s Chapel."

—Henry VII.'s Chapel, which was commenced in 1502, was intended by its founder to serve as a chantry and contain his tomb. It covers the site of the Lady Chapel of Henry III. and consists of a nave with apsidal end, two side aisles, and five small apsidal chapels. It is approached from the Abbey retro-choir by a broad flight of steps and impressively darkened lobby, with which exception it is detached from the main building and has its own independent west window as at the Lady Chapel at Gloucester. The high vault is supported by fourteen turret-shaped buttresses in the aisle walls, with flying buttresses to the clerestory. Practically all the remaining surface is glazed. The whole exterior is covered with a lace-like pattern of minute tracery, and thousands of roses, portcullises, fleur de lys, lions, dragons, and greyhounds. All this ornament had become very much decayed, and was restored by Wyatt in the early nineteenth century. The interior of the chapel contains many points of interest, chief among them its marvellous fan vaulting—one of the most startling constructive achievements of the Middle Ages. The main traverse ribs form a series of slightly pointed arches, each of which appears to go through a vast circular pendant suspended quite clear of the walls and from which fan tracery spreads over the whole vault. Despite the sensational appearance of the vault, it is as sound as any vault can be, but a series of iron tie-rods was added by Sir Christopher Wren. At the east end of the Chapel stands King Henry VII.'s tomb, the work of Pietro Torregiano, with two finely sculptured effigies of the King and his Consort. This is presumably the earliest introduction of Renaissance detail in England. Surrounding the tomb is a fine brass screen of English workmanship—a worthy fellow to the noble brass gates at the entrance to the Chapel. Mary Queen of Scots and Elizabeth are buried beneath their respective monuments in the north and south aisles. Other Stuart and Hanoverian Kings are buried in the Chapel, but without monuments. The double range of oak stalls on either side of the Chapel, with their earlier misereres, are deserving of close attention. Unfortunately, none of the original glass, which must have had a large share in the effect of the interior, remains in the windows.

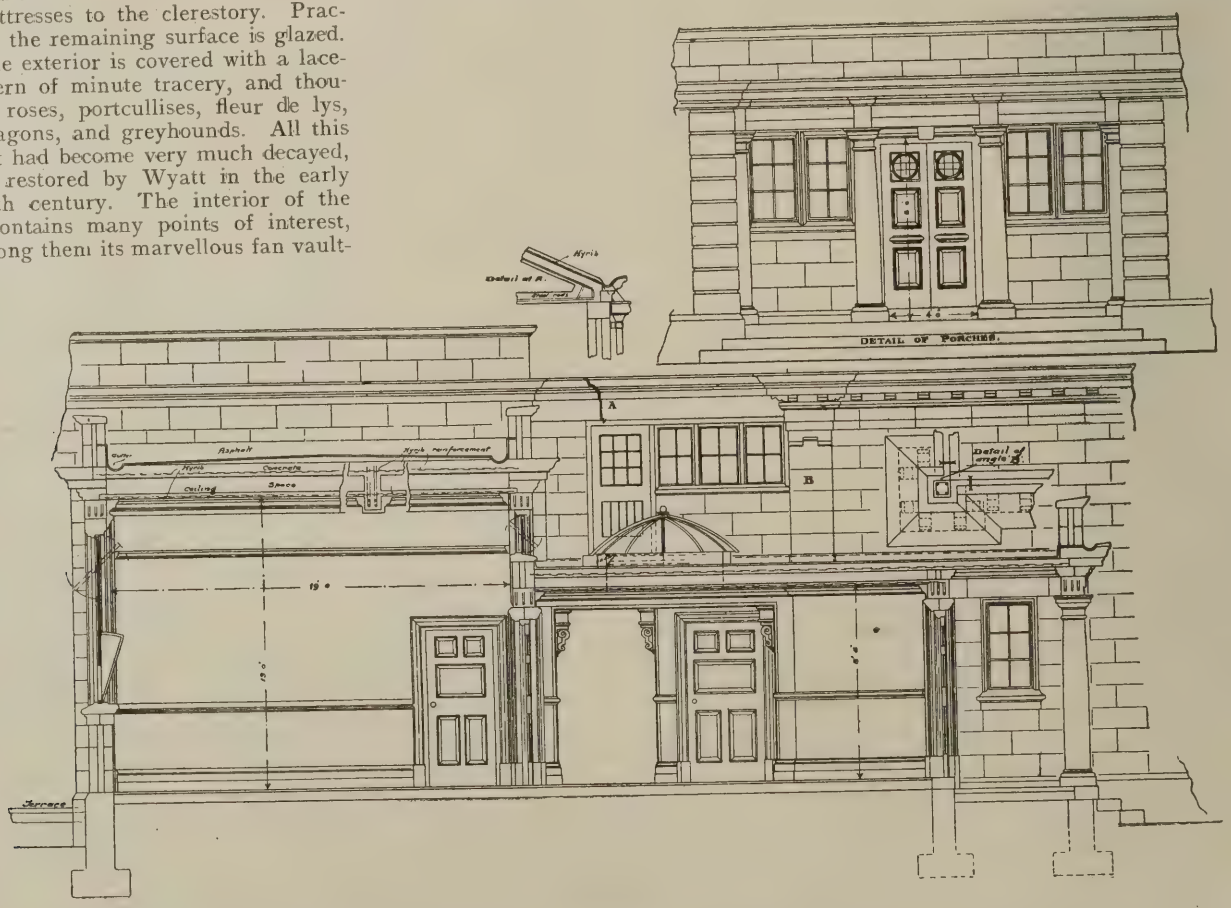
At the present time the external stonework of Henry VII.'s Chapel needs a good deal of repair, especially the clerestory. Many of the stones have lost as much as half an inch in thickness through the action of wind and rain, and the pinnacles are weathered into hardly recognisable shapes. A touch is sufficient to crumble the stone like sand.

London University Site

Mr. Frank Hunt, Valuer to the London County Council, has made a report on the offer of the Government to provide behind the British Museum a new site for King's College and for the headquarters of London University.

With regard to the University buildings, he says, "it is very difficult to form a definite opinion as to the cost of reinstating them having regard to present-day conditions; but even on the basis of their present accommodation I do not think it likely that a new building in Bloomsbury could be erected to afford accommodation similar in extent to that which they now occupy at South Kensington for a figure of less than between £750,000 and £1,000,000, depending upon the monumental character of the new building. If the scheme of enlarged and modernised accommodation, which was set out in a memorandum by the Principal in, I think, 1910, be taken as the standard, it seems to me that the expenditure for building would probably amount to about twice or three times this figure, or a sum in the neighbourhood of £3,000,000."

On the subject of new buildings for King's College the Valuer remarks: "In this case also considerable difficulty is experienced in estimating the cost of provision; but with the present information before me the cost may amount to a figure in the neighbourhood of £800,000. With regard to the site, it is obvious that one in the Strand in this position is worth very considerably more than a site of an equal area in Bloomsbury. In my opinion the Strand site of about two acres would require some ten times this area in Bloom



DETAIL THROUGH CLASSROOM AND ENTRANCE OF PROPOSED SECONDARY SCHOOL AT BISHOPS CASTLE, SALOP.

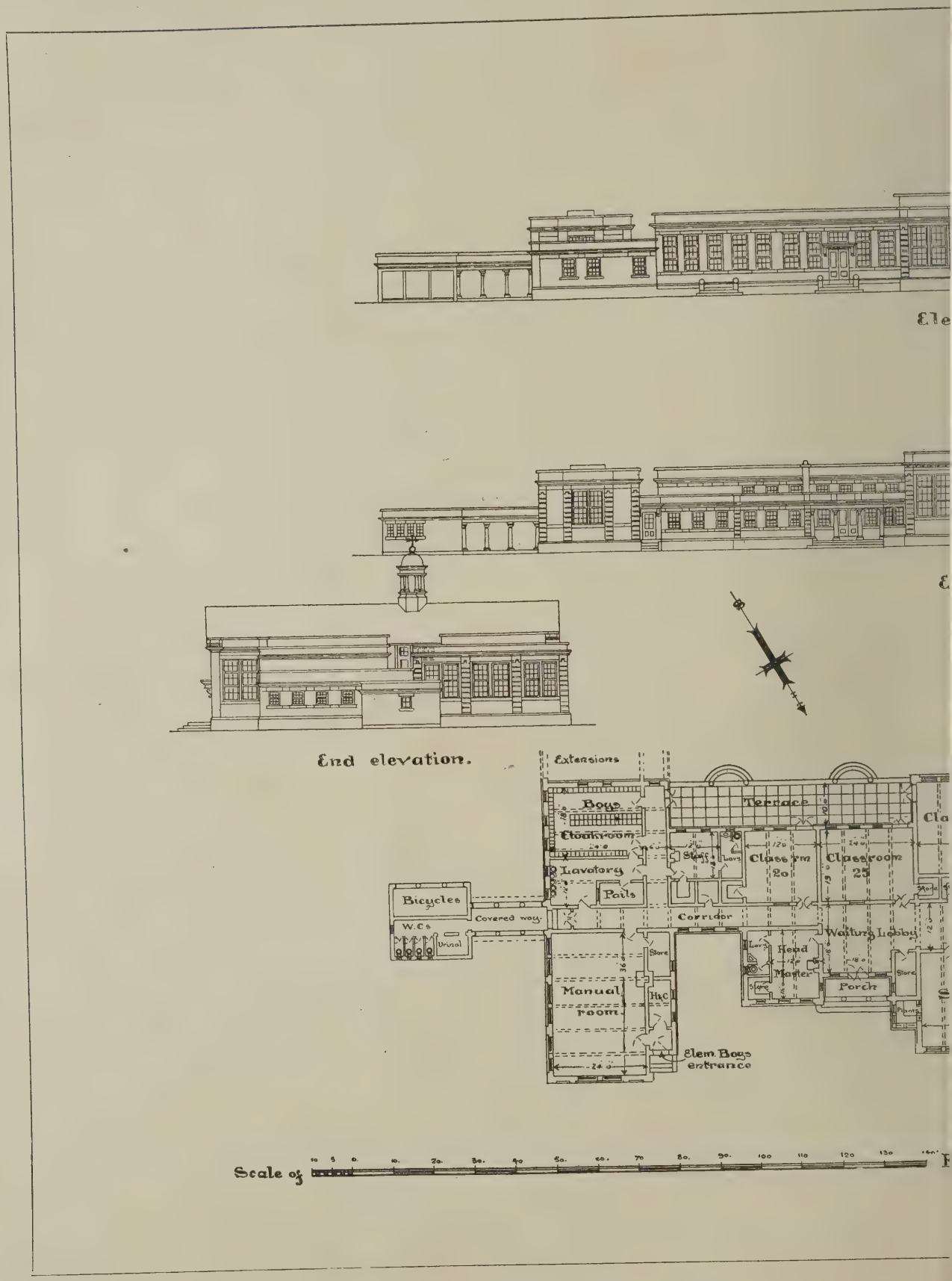
(See double-page plate.)

UNIVERSITY OF ILLINOIS LIBRARY

SEP 14 1920

Architects' Working Drawings. 13.—

Georg



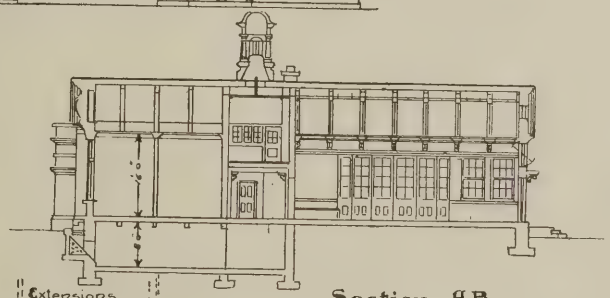
For reasons of economy it is intended that this school shall be of on
walls are to be formed of two thicknesses of concrete slabs with a 3
constructed with "Hy-Rib" lathing covered with about 3-in. cement con
flat, leaving an air space about 6-in. deep. It is considered that t
and summer. All the window frames will be of steel with wide
corridors and cloakroom, and jointless composition floors in the varic
are estima

condary School, Bishops Castle, Salop

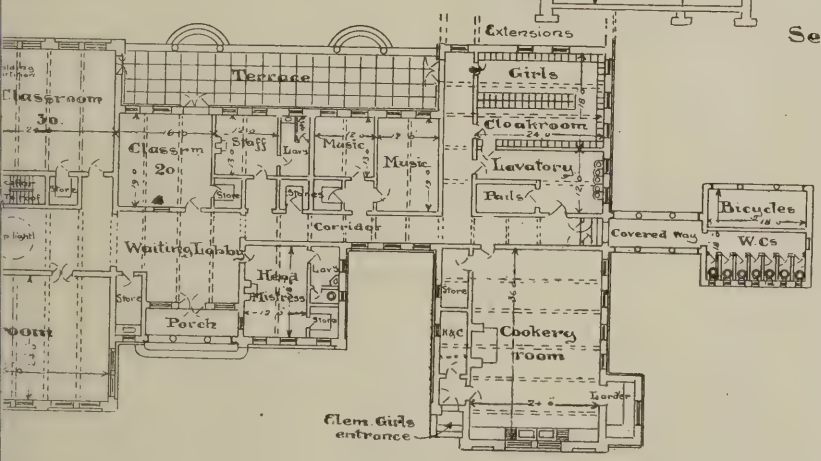
itect

fields.

way



Section AB.



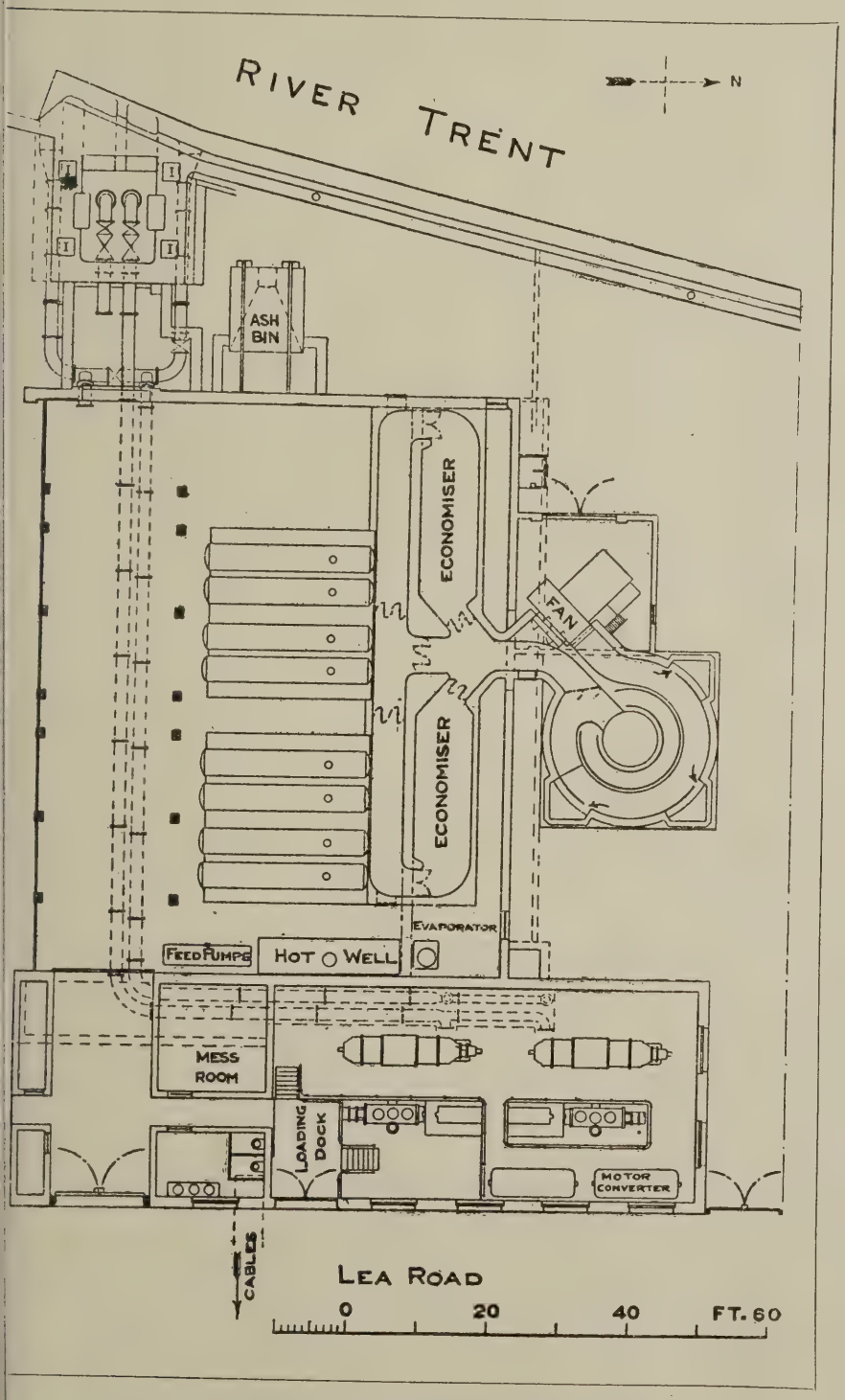
osed is reinforced concrete pillars and beams carrying a flat roof. The
ng ashlar faces and the inner slabs plastered. The flat roofs are to be
ng of similar lathing and plastering is to be formed beneath the concrete
d ceilings will help in maintaining equable temperatures in both winter
with some rust-preventing process. Terrazzo floors will be laid in the
e stone from the local quarries for all the concrete work. The buildings
co per place.

UNIVERSITY OF ILLINOIS LIBRARY

SEP 14 1980

y to represent an equivalent value, but ew building for the college erected in ordance with modern practice would bably occupy a site of at least twice the ting site area to give the same effective mmodation. The value of the King's ege site to the Government when surlered by King's College may be taken representing between £800,000 and 00,000."

he Government have spoken of 11½ s as the measurement of the land ed by them in Bloomsbury, and this what the Valuer to the London nty Council says: "The building do not total 11½ acres. This e could only have been arrived y including in the calculation the area e public streets—Torrington Square Keppel Street, together with the open place at the rear of the British Museum—and also the gardens of Torrington Square. The total that I make of the building sites would be about 8 1-3 acres, the area of Torrington Square adding about one acre more. There are leases running in some cases for nearly twenty years, but I have no information as to the amount of the ground rents receivable by the Duke of Bedford, which is an important factor in making an exact calculation of the value of the interest which has been offered to the University. Assuming, however, that the site were in hand and capable of being developed in the near future, in my opinion the value of the building sites of, say, 8 1-3 acres, which is what will in effect be available for building purposes, would be about £450,000 to £500,000."



GENERAL PLAN OF POWER-STATION ON THE TRENT.

A New Power-Station at Gainsborough

We reproduce below a plan of a power station, recently erected for Messrs. Marshall, Sons and Co., of Gainsborough, some interesting particulars of which have been given by Mr. F. J. Cribb in the course of a paper read before a meeting of the Institution of Mechanical Engineers. Mr. Cribb said that in 1916 it became daily more evident that the electric power and lighting station at the Britannia Works was totally inadequate for the firm's requirements. It was running very uneconomically at double its rated load, and as all the engines were continuously running, no time was available for any repairs, and consequently all were in very bad condition. It was then decided by the directors to install a new plant. As there was no available space in the works, a site had to be found, near the river, if possible, to reduce the yearly outlay on water, which up to this time had been supplied by the Town Council, and was costing over £800 per annum. For some time no likely site was available, but early in 1917 an old oil mill, on the bank of the Trent, half a mile from the Britannia Works, was advertised for sale. This was purchased at Easter, 1917, and plans were put in hand for the new plant, the conditions being that it should be able to provide a daily load of 2,000 h.p. economically and be capable of extension in the future.

Whilst the old mill was being dismantled plans were prepared for the new plant. On putting down three bore-holes, 40 ft. deep, it was found that the firm had been fortunate in securing a site on a bed of hard red clay, changing into blue stone clay in seams at about 25 ft. A curious stratum, about ½ in. thick, of small shingle intersected the red clay all over at about 5 ft. from the surface. Anyone knowing this district as being an estuary of the River Trent, with its bog and sand, will realise what this meant in foundations and piling, for at Messrs. Newsum's works, about 400 yards further up the river, two 24 ft. piles on-end were driven down under the site for a chimney without finding any bottom, and the chimney has gone over 8 to 10 in. since being built.

Whilst the excavation was in progress, a cofferdam was erected along the river frontage to allow of building a concrete river wall 26 ft. high from the footing to the top, the foot being 6 ft. below low water at 3 O.D., and the top of the wall 23 O.D.; the highest ascertained flood level was 21 O.D. This wall is 8 ft. thick at the foot, decreasing to 4 ft. 6 in. at 4 ft., and thence in steps to 2 ft. at the top.

Seeping holes were left in the wall at low water and half tide, and four tie-rods were secured to massive blocks of concrete 34 ft. back. This wall was strengthened throughout by long lengths of angle and bar steel as the work progressed, and finished outside with pitch-pine fenders.

At the south end of this wall the suction-well was constructed; this was 10 ft. 6 in. by 13 ft. inside by 30 ft. deep, having two openings to the river each 4 ft. 6 in. by 12 ft. high. The buildings have been arranged on the site to allow of doubling the size of the plant and to permit of a cart-road right round for convenience of coaling and disposal of ashes. For the same reason, the boiler-house was erected nearest the river with the coal-bin overhead.

Luxury Building and Labour

Local authorities in the East Midlands area, met to consider housing problems, ask for increased powers to prohibit "luxury building," and urge the necessity of adding to the numbers employed in the building trade. The East Midlands area has the second largest number in the country of tenders let, and especially feel the shortage of labour for housing. The conference which was arranged by the National Housing and Town Planning Council has transmitted the following resolution to Dr. Addison:

This conference is strongly of opinion that the fact that not more than 10 per cent. of labour in the building trade is concentrated upon housing schemes of local authorities constitutes a public scandal calling for the urgent action of the Government.

Further, the conference is of opinion that the Minister of Health should be given the full support of all local authorities in submitting legislation to Parliament:

(a) To secure uniformity and equity of administration as between local authorities of the power to prohibit construction of buildings of less public importance than dwelling-houses, and to make the power more adequate.

(b) To secure the rapid and substantial increase, more especially by means of modern systems of apprenticeship and training, of the number of operatives in the building industry so as to enable the full building needs of the nation adequately to be met.

Weekly Housing Report

New housing schemes submitted to the Ministry during the week ended August 7 numbered fifty-five, bringing the total number of schemes submitted to 10,893, comprising about 73,000 acres. The schemes approved now number 7,505, and comprise about 53,000 acres.

Forty-one lay-out schemes were submitted and forty-four approved during the week, bringing the total number of lay-outs submitted to 5,556, and the number approved to 4,919.

House plans representing 2,092 houses were submitted, and plans for 2,033 houses approved. The total number of houses represented in all the plans now submitted is 247,147, and in the plans approved 230,867.

During the week tenders were submitted for 1,425 houses. Tenders for 2,106 were approved, bringing the total number of houses in tenders submitted to 154,741, and in tenders approved to 137,552. Contracts have been signed for 83,014 houses.

At the end of July certificates had been issued by local authorities approving plans for 15,636 subsidy houses. These houses are required to be completed within a limited period. The builders or those responsible for building are entitled on completion of the houses to Government grants amounting approximately to three and three-quarter millions.

Certificates to the completion of 691 subsidy houses had been received by the Ministry by the end of July. The number of subsidy houses proposed to be built in the Metropolitan Police district is 3,863, and the region showing the next largest number is that comprising Cheshire and Lancashire, with 2,184 houses. The grants are paid by the Ministry of Health directly the certificates of completion are received and checked. About £120,000 has already been paid.

Hammersmith Housing Competition

The London County Council have accepted a tender for the erection on the Old Oak Estate, Hammersmith, of the eighteen cottages to be built according to designs premiated in the competition conducted by the R.I.B.A. by arrangement with the Local Government Board in 1917-18. The architects are: Mr. Courtenay M. Crickmer, F.R.I.B.A. — first premium, Class A, Home Counties Area; Mr. F. C. W. Barrett—second premium; Mr. Alfred Cox, F.R.I.B.A.—first premium, Class B; Mr. C. Wontner Smith, F.R.I.B.A.—second premium. The scheme is the outcome of a suggestion made to the Government by Mr. Henry T. Hare, when president, that a group of houses should be erected from the premiated designs to serve as models in connection with the Government housing schemes, and in such a locality in or near London as to be ultimately available for normal occupation by working-class families. Arrangements were made with the London County Council by the late Lord Downham (then Mr. Hayes Fisher, President of the Local Government Board) to provide a site and to carry out the scheme in conjunction with the Institute. The houses will be provided by the London County Council in pursuance of their powers under Part III. of the Housing of the Working Classes Act, 1890. The tender accepted amounts to £20,112, and there will be an additional expenditure estimated to amount to £1,888 for architects' and surveyors' fees, supervision, lithography, etc.

Publications Received

A "Practical Guide to the British War Area in France and Belgium" has been issued, price 2s. net, by Messrs. Vickery, Kyrle, and Co., Ltd., of Holborn House, 22, Gray's Inn Road, Holborn, London, W.C. Every town of any size in the British area, whether destroyed or still standing, is mentioned, the approximate time and distance by road and by rail being given from the most convenient Channel port, and also from Paris. Brief historical notes are added, and there is a special supplement setting forth the positions of principal war cemeteries, and indicating the central towns from which they are most readily accessible. The guide should certainly be in the hands of all who contemplate visiting the British battle areas.

"Greece on the Eve of Resurrection." By Dr. Michael D. Volonakis, with a Preface by Arnold J. Toynbee, Professor of History at King's College, London University, and an Introductory Letter by His Excellency John Gennadius. Hesperia Press, 101, Dean Street, Oxford Street, W.1.

"Old Village Life." By P. H. Ditchfield. Price 7s. 6d. net. Methuen and Co., Ltd., 36, Essex Street, London, W.C.2.

Competitions Open

Wakefield.

Cenotaph to the memory of the Falle Apply Town Clerk.

Liége.

Monument to commemorate the defen of Belgium against the German invad One million francs has been subscribed the project. Apply M. Léon Maréch Bureau des Beaux Arts, Hotel de Vil Liége, Belgium.

Hamilton, Bermuda.

War memorial to be erected in front the Public Buildings, Hamilton. P miums £50 and £25. Apply Mr. E McCallan, Acting Colonial Survey Colonial Surveyor's Office, Hamilton. full particulars see our issue of July Closing date, August 31.

Earby.

The Earby War Memorial Commit invite designs in competition for the lo war memorial, with lay-out of ground, a cost not exceeding £750 memorial, £ lay-out. Space to be provided on memorial for about 200 names. A mium of twenty guineas will be paid the selected design, such sum to merged in the commission in the even the author being engaged to carry out design. Further particulars may be tained on application to Mr. T. Petty, secretary, Council Offices, Earby. Ca dates are asked to forward with the de an estimate of the cost and a specifica of materials to be used. Closing August 21.

Hackney.

Monumental memorial in stone marble, cost not to exceed £500. Prem twenty guineas. Apply Mr. Nor Scorgie, Town Hall, Mare St Hackney, E.8. Closing date Septemb Members of the R.I.B.A. and the S.A requested not to take part in this petition without first ascertaining from society that the conditions have approved by the Council.

York Minster.

Memorial to officers and men of K.O.Y.L.I. in York Minster. Cost n exceed £2,500. Premiums: 1st, the mission, and £100 to be divided am four competitors. Assessors, M Walter Tapper, H. V. Lanchester, Robert Atkinson. (For full partic see our issue of July 28.) Drawing 34 and 35, Bedford Square, W.C. September 14.

Lille.

Extending and beautifying the city trance fee, 300 francs. Available fo miums, 128,000 francs. Apply the M Competition closes October.

Unapproved Competitions.

The R.I.B.A. and the Society of tects advise their members not to p pate in the Wakefield and Earby Memorial Competitions until the tions, which are considered unsatisfa have been amended. The Society m similar request with regard to Wey War Memorial Competition.

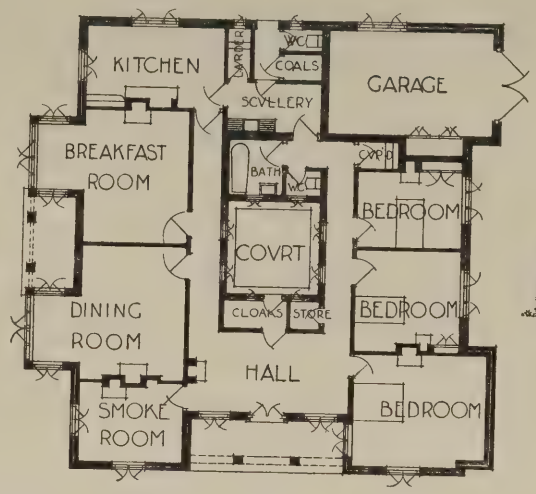
Competition Awar

Twickenham War Memorial

Mr. M. Brown, R.B.S., of Tw ham, has secured first place with sign for the Twickenham War Me The designs of Mr. H. Beech, of and Mr. A. F. E. Paley, of Ha Hill, have been placed second and respectively.

C. F. W. Dening, F.R.I.B.A., Architect

WEST ELEVATION.

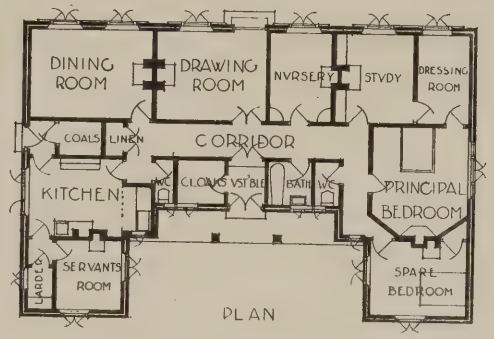


PLAN

SCALE 10 0 10 20 OF FEET

SOVTH ELEVATION.

NORTH ELEVATION.



PLAN

SCALE 10 0 10 20 OF FEET

SOVTH ELEVATION.

These bungalows are in course of erection in the neighbourhood of Bristol. The feature of the rough-cast example is that all the living rooms face due south and the double sets of doors from entrance lobby to those on south front are all glazed to about 1 ft. 2 in. from floor level. The brick-faced bungalow has an internal court and the west elevation overlooks the famous Durdham Downs. The walls are of 11 in. brickwork with a 2 in. cavity and roofs of pantiles. The pointing to the varied brickwork is putty coloured. The sunshutters are painted blue. Labour-saving devices are installed. The floors are of wood blocks, and there are patent floors and dados to the bathroom.

UNIVERSITY OF ILLINOIS LIBRARY

SEP 14 1920

Exterior Colour Decoration

ir Reginald Blomfield, R.A., and Sir vid Murray, R.A., made some interest- remarks on the exterior colour decora- of buildings at the presentation of es to the successful competitors in the npetition promoted by Messrs. Thomas sons and Sons for the decoration of ir premises at 315-317, Oxford Street, A list of the awards was published in issue of July 28, and a criticism of the ning design appeared a fortnight ago.

ir Reginald Blomfield said that in this ntry we generally had a dull sky, and veather such as we were having now no urs would last long. Therefore, in the t, colour decoration had not been very ch attempted in northern countries. In y and Spain, where there was plenty very brilliant sun, one could adopt urs like the beautiful white marble they in Italy, terra cotta, etc. The Marble h was an example of what happened in country. It looked very nice at first, after a month or two it was not half ice as Portland stone. He thought they been wise to confine their work to e and brick, though, of course, they not get the same delightful texture their own old fashioned materials. In country, exterior decoration was not so essary, but in big towns there were it opportunities for it. Many houses horrible shades of colour, and they e extremely depressing, although there e others where the colour schemes go well, these buildings lending them- es to colour decoration. It was not ugh to take the architectural features building and simply tint them. In e of the designs submitted there was a attempt at colour decision, to get the ur scheme complete, and not merely a ble, and that should be aimed at in ur schemes for these fronts. Then artist should bear in mind the scale of building. It would be quite useless to r some great building with designs would be incongruous. Also there ld be some regard to the structural ils in the handling of the colour me. Lastly, a very important matter the quality of the texture. In the sian ballet, for example, some wonder- rich harmonies of colour, giving an emely satisfactory effect, were ined, although that was due largely ovement and to the surface colouring. as quite a different thing when they to deal with a flat colour on a cement In attending to these architectural ts, he strongly advised the designer onsult an architect on architectural ils, and naturally the architect would ult a painter regarding colour mes.

r David Murray suggested that a ir scheme for London should first of all breadth, and it ought to have har- y, gaiety, and sunshine in its expres- London, as Sir Reginald Blomfield aid, was too often a sunless town. We long with a feeling of misery as we at the streets and buildings. They ld be altered, not by individual tastes g expressed everywhere, but by a com- tion of proprietors who would form a ir zone and not a patchwork. There be one design. Once that was fixed , he suggested that the proprietors, ey approve of it, should have advice to complete the scheme, which would come to be the keynote of the first effort. In that way London would become a pleasant place to live in. In Italy they had a very fine scheme of colour, with their lovely white marble, yellow ochre, venetian red, and vermilion; and the sun, the weather, and the climate were the three greatest colourists working upon this triple combination. The result was a broken colour, so accidental that it was almost invisible where it began and where it left off, but extremely agreeable. If it were possible to have one tint over another, and the top tint so removed as partly to reveal the one underneath, the result would have a very pleasant effect on the mind.

In colour design, he did not think that detail should be so much aimed at as breadth of effect, but there was no reason why this detail should not be introduced always on a broad scheme of colour design. Since the war many things had changed in London, and he had derived the very greatest pleasure when he went out when the sun was lowering, because he found London was more beautiful than it had ever been before. He wondered what the difference was, and he had since come to the conclusion that the lack of painting during the war had caused it. The buildings had been allowed to take on other colour expressions, one by one, all of different hues, but all in harmony. If there was a judicious exercise of taste in repainting some of these weather-beaten aspects, and in reconstructing the decoration of sashes and doors, it would give them an aspect of cleanliness and beauty.

Dominions Touring Exhibition

The Department of Overseas Trade is organising the Dominions Touring Exhibition with the object of fostering and developing trade with the Dominions, and enabling manufacturers and merchants to bring their goods to the notice of buyers in all parts of the Empire. The exhibition will carry specially selected samples of British manufactured goods to South Africa, Australia, New Zealand, and Canada, in which countries the following principal cities will be visited: South Africa: Durban, Johannesburg, Cape Town. New Zealand: Christchurch, Wellington, Auckland. Australia: Perth, Adelaide, Melbourne, Hobart, Brisbane, Sydney. Canada: Vancouver, Winnipeg, Toronto, Montreal, Halifax.

The Dominions' Governments are offering every facility, and are assisting by providing exhibition halls and arranging reduced fares, freights, etc. The tour will leave England early in 1921 and will travel for about two years. The scheme will be self-supporting, and, estimating on a basis of 500 units of space, the tour can be conducted under present conditions at a cost of about £210 per unit. Half a unit will cost £126. Firms may apply for a half-unit or for one or more units. A unit consists of 10 ft. frontage in the exhibition, and two or four show cases, and one or two packing cases, according to the type of unit chosen. The above prices are exclusive of the cost of the show cases, prices of which may be obtained from the department. The tour is not merely an exhibition of samples for propaganda purposes: orders will be taken on the spot. Arrangements can be made either for a firm's local agent to take charge of their exhibits on entering the country, or a group of firms can share the cost of a joint salesman; or exhibitors may send out their own representative to accompany the exhibition for the whole or part of the tour. The Department of Overseas Trade will give every assistance to British firms participating in the tour to secure a footing in these markets. Complete information as to the best channels through which goods may be introduced and recommendations as to agents and local trading conditions with respect to any article can be supplied by the Department.

Manchester and the Ministry of Health

In the House of Commons, on August 11, Mr. Hailwood asked whether the Minister of Health's attention had been called to the report approved by the Housing Committee and the City Council of Manchester which offered certain criticisms against his department and accused them of responsibility for some of the delays in the erection of houses; whether he admits these complaints to be well founded, and if not, what answer he proposed to give to the City Council.

Dr. Addison (Minister of Health) said that so far as there was any delay in the placing of contracts, his department could not be blamed for refusing to agree to prices which were unreasonably high. The delays, however, were mainly due to the shortage of skilled labour, which was further aggravated by the fact that the powers of the Council for the limitation of unessential buildings had been found to be insufficient. The Government were making proposals for dealing with both these matters.

Mr. Hailwood: Is the Minister aware that in December last the Housing Committee decided to place contracts with a number of local builders, that these were taken out of their hands by the Ministry of Health, and that the scheme was held up till February because the Ministry wished to place the contracts with their department, and that when the committee decided to go on with the matter they found the Ministry had altered the plans and thus delayed building by the contractors?

Dr. Addison: The action was taken on my personal instructions because, in my opinion, there was sufficient evidence to show there was a combine against the Ministry to force up prices.

Mr. Hailwood: Is the Minister aware that the Manchester Corporation are held up in consequence of luxury building, although luxury building is excluded in Manchester while luxury building is taking place in other towns, with the result that men are drawn there by the higher rates?

Dr. Addison: I am quite aware of that, and I sympathise with the Manchester Corporation in their difficulties. It is proposed to alter the law as soon as we can. There has been competition, and the main cause of the delay is that there are not sufficient workers.

Coming Events

SEPTEMBER 15 TO OCTOBER 9.

Glasgow Housing and Health Exhibition, Kelvin Hall, Glasgow. Some particulars of the scope and character of this important exhibition are given on page xvi.

Trade and Craft

Surveying Instruments.

Messrs. B. J. Hall and Co., Ltd., of Chalfont House, Great Peter Street, London, S.W.1, have recently been appointed sole agents and representatives of Messrs. W. Ottway and Co., Ltd., Orion Works, Ealing, London, the well-known makers of theodolites, levels, and other surveying instruments. Messrs. Ottway have been making optical instruments for trade houses for nearly three hundred years, and were one of the firms selected by the Ministry of Munitions for the reliable and delicate optical instruments required during the war.

Concrete Blocks for Housing.

Housing on the concrete block system has made immense strides since the Ministry of Health altered the building by-laws in order to give freer scope to concrete construction in England. Liverpool is having no fewer than 2,500 of its new houses erected on these lines, largely with the well-known "Winget" outfit. Sheffield's scheme includes 1,147 houses, the whole of the internal walls of which are being built with "Winget" blocks and slabs. The same system has been adopted at Bournville, as part of Messrs. Cadbury's new housing scheme, as well as at Walsall, Tilmanstone, Bullcroft, Chepstow, Hardwick, Bulwarks, Sedbury, Braintree, Brighton, Linthwaite, Hastings, Dormanstown, Yorkshire, and the Metropolitan Railway Country Estates at Wembley Park, Neasden, and elsewhere.

Electric Fittings and Fans.

Four useful pamphlets have just been issued by the General Electric Company, Ltd., of 67, Queen Victoria Street, London, E.C.4. Two of them, to be used in conjunction with catalogues, give the revised prices of "Freezor" fans and electric bells and accessories, and the other two deal respectively with the "Koolah" ceiling fan and "Efficiency." Manufacturers and dealers have been content in the past to concentrate their energies on the smaller type desk and bracket fans, and have unconsciously created a fashion for those types, with the result that the claims of the ceiling fan have not always been considered as they should be. Prompted by the great success of the "Koolah" fan in tropical countries, where very many thousands are now in every-day use, coupled with the knowledge that an extensive and undeveloped field awaits attention at home, the company have organised their arrangements to popularise this fan. During the past few months the company have by a special concentration of effort accumulated a very considerable stock of these fans, and are thus enabled at this time to offer immediate delivery of any quantity required. "Efficiency" is an artistically illustrated pamphlet which presents in a striking manner some interesting facts on the activities of the company in all branches of the electrical industry.

A New Decorative Paint.

The various artistic shades in which Matroil, a new departure in decorators' paints, may now be obtained are shown in a very useful colour folder, which has just been issued by Messrs. Lewis Berger and Sons, Ltd., of Homerton, E.9. Matroil is a Japan-bound, washable flat paint, which is manufactured in paste form and which is thinned with cold water before application. It gives a smooth, dead flat finish—not only artistic and restful, but protective on inside walls and ceilings and, in the special outside quality, on outside work. On very absorbent surfaces or for outside work Matroil should be thinned with Matroil special thinner instead of with water. So thinned, it is perfectly safe on new plaster that has dried out. Two coats of the material give a solid covering to the surface, and when the first coat is dry the second can be applied without fear of working up the first. All the shades can be intermixed or used for tinting Matroil white, so the colour range is unlimited, although the main purpose of the paint is artistic and durable flat decoration, the firm claims that it is useful as a primer for oil paint finish, that it is effective as a filler and priming coat on new woodwork, and can be readily cut down with pumice; that it is a suitable undercoat for moderately-priced enamel work, and that it can be varnished over with excellent results, the varnished surface making an effective contrast with the flat Matroil finish, as, for instance, in dado work. For outside use (stucco work, etc.), a special weatherproof quality is made which needs thinning with the special thinner. The material, tint books in connection with which are in course of preparation, complies with the Home Office regulations for factory painting at intervals of three years.

Government and the Building Trades

The Government's new proposals to speed up the building of houses, which have just been announced, include the following principles:

Labourers to be trained as bricklayers, slaters, tilers, plasterers, working with skilled men, for six months.

Elder men as well as youths to be accepted as apprentices. Two years training for elder men.

Ex-Service men between twenty-two and twenty-six to be admitted to the trade and undergo training.

Building trade to permit nine hours day and fifty hours week in summer and seven hours day and thirty-nine hours week in winter.

Week (guaranteed by Government) of thirty-five hours in the summer and twenty-six hours in winter at full rates.

Men must leave work only when rung off by the proper authority.

No stoppage or strikes in housing work. Matters of dispute to be dealt with by conciliation boards.

Members of unions to be allowed to work overtime on housing (when required) at the rates current in the district.

System of payment by results, enabling men to earn higher wages, the men to be consulted in fixing piece-work rates.

Each man to have a guarantee of a minimum wage for an hour's work of a certain output.

Trade unions are invited by the Government to make specific proposals for giving effect to a system based on these principles. The proposals stand as a whole, and the offer of a guaranteed week is contingent on the acceptance of the other conditions.

Huntingdon Builders Annual Dinner

The first annual dinner of the Hunti don and district master builders, others employed in kindred trades, held at Huntingdon. Mr. G. Wrycroft Messrs. Wrycroft and Sons, St. Ne presided.

Proposing "Success to Huntingdon, District Building Trades Employers' A ciation," Mr. F. Giddings (St. I said: In the past the object of archite when they received tenders, was to l down prices as low as poss He did not say they were wr but he had held for many y that the proper thing for the b ing trade was to have a schedule of p to work by, and not for one builder t to take an advantage over another. they asked for was to be paid fairly fo work they did, and in the times of ri prices such as they were living in, he not see how work could be done in other way.

Mr. Wrycroft, in reply, said that u tunately they had not been treated by Ministry of Labour and the Ministr Health as they had hoped; neither ha treatment the builders received been fa those who employed them. The hou question was a serious one, and they been told a new England was needed, it would be a poor one if they kept c at present. It might have been different had there been no Govern departments to interfere, and the hou question had been left to the county local authorities to deal with. Fo stance, the lay-out plans from the Mi of Health had caused more money spent than was necessary. Endles pense would have been saved if the h could have been built in blocks of si stead of in pairs. The houses would been warmer and much better in respects. Government Department not seem to realise that these enor expenses had to be borne by the ratep and taxpayers, and as regarded the sibility of obtaining an economic re the houses already built, he defied any to show how this would ever be pos

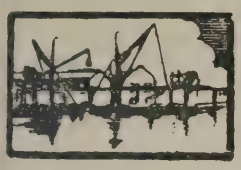
Architect's Assistant Wanted in Singapor

We are notified of a vacancy for an tant in the Architect's Office of the Works Department, Singapore, S Settlements. The salary is 500 dolla month, rising by annual increme 25 dollars per month to 600 dollar month, with prospect of further adv ment to 800 dollars per month. (Th ling value of the dollar is at present by the Government at 2s. 4d.) A porary war bonus of 10 per cent. is a sent payable. If quarters are pr rent will be charged; but no gua that quarters will be available ca given.

Free passages out and home aga provided on the satisfactory termina the engagement, which is for three with prospect of a permanency. selected candidate will be required as soon as possible. He will be requ pass a strict medical examination, a vaccinated, if necessary.

Applications should be addressed Ian MacAlister, Secretary, R.I.B. Conduit Street, London, W.1.

No. 27.



BUILDING MATERIALS

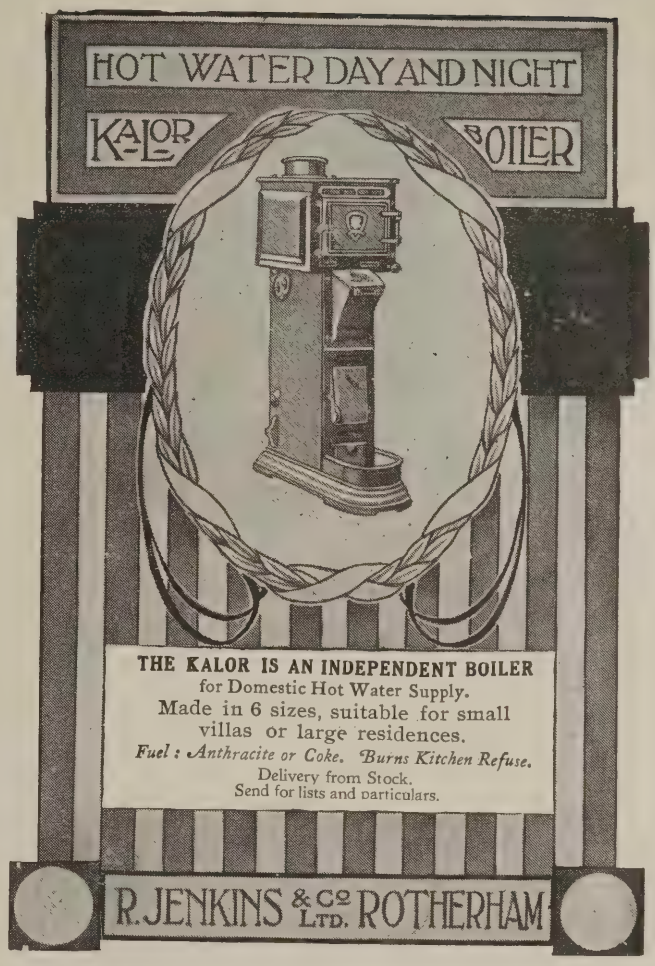
We shall be glad if you will send us your enquiries, and would therefore ask you to put our name on your buyers' list for Materials used in building construction.

Cement, Limes, Bricks, Partition Blocks, Tiles, Slates, Chimney Pots, Sanitary Ware of all kinds, Pipes, Gulleys, Interceptors, Fire Bricks, Fire Clay, Fire Cements and Refractories of every description. Acid resisting Goods, and Acid Cements, also Fiberlic the root Fibre Board, Asbestos Sheets and Tiles. "Sank" brand Paints and Distempers.

We deliver by our own lorries 50 miles round London, and by vessel or truck to any port or station in the United Kingdom.

J. H. SANKEY & SON, LTD

Estd. 1857. HEAD OFFICE, Essex Wharf, Canning Town, London, E.16.

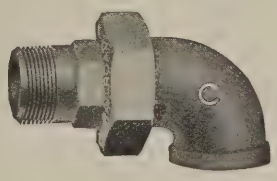


CRANE

PIPE FITTINGS

in

Malleable Iron
Wrought Iron
Soft Cast Iron
GUNMETAL
} Black and Galvanised



"EVERYTHING FOR ANY PIPE LINE"

For STEAM, WATER, AND GAS

VALVES AND COCKS

GUNMETAL and IRON (Screwed and Flanged).

PLUMBERS' BRASSWORK.

PIPE HANGERS, PIPE FITTERS' TOOLS.

Distributors of HEATING AND SANITARY MATERIALS.

CRANE-BENNETT LTD

45-51, Leman Street, London, E.1.

Telephone: 62-5 Avenue (4 lines).

Telegrams: "Spruceness 'Phone, London."

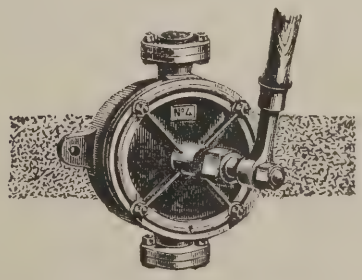
PUMPS

Willcox's SEMI-ROTARY "WING"

For House and Estate water supply, and general lifting and forcing. Double or quadruple action. Mounted or unmounted.

Other Specialities: Diaphragm Pumps for Trenches, Excavating, etc.; "Jones-Willcox" Patent Wire-bound (non-rubber) Hose; "Penberthy" Automatic Cellar Drainers.

Let us quote for your requirements.



W. H. Willcox & Co. Ltd.

32-8, Southwark St., London, S.E. 1.

CONTENTS.

Edited by PROFESSOR A. E. RICHARDSON, F.R.I.B.A.

Notes and Comments: High Tendering for Housing; London University Site; Resignation of Sir James Carmichael; The Outlook for Bricklayers, 197; Mystic Rites of Land Transfer; Air Views of Buildings; The Lincoln Statue and Some Others; Mr. A. E. Rickards's Drawings; Revision of Statues 198

The Week's News 199, 222

The House of a Great Artist 200

Architectural Causerie: East of the Tower. By Aero 201

Stone for Westminster Abbey: Opinions of Distinguished Architects 202

Acoustic Properties of Doors and Windows 206

Danish Furniture Fair 210

Building Labour and the Government 215

Construction. 12.—A Machine-Shop Extension. By L. P. Francis, M.C.I. 216

The Summer School of Civics ... 220

Correspondence: "Exemplary Street Labels" 221

R.I.B.A. and Ex-Service Students ... 221

Enquiries Answered: The Temple of Theseus, Athens; Rough Cast ... 221

Weekly Housing Report 221

Liverpool Architectural Society ... 221

Competition News 221

Publications Received 221

Current Prices of Materials ... ... xv.

Complete List of Contracts Open xviii., xx.

ILLUSTRATIONS:

Leonardo da Vinci 195

Air Views of Buildings. 1.—The Colleges of Oxford ... 196

The late Sir Laurence Alma-Tadema's Studio in St. John's Wood 200

Doorway and Brass Staircase in House of the Late Sir Laurence Alma-Tadema ... 201

Modern Domestic Architecture. 15. — House at Dorval, Quebec. Septimus Warwick, F.R.I.B.A., Architect 203

Nebraska State Capitol Competition. Design submitted by McKim, Mead, and White ... 205

Arrangement of Sound and Test Chambers for Investigations into the Acoustic Properties of Doors and Windows ... 2

Architectural Details. 4.—Examples of Trellised Verandahs: Colleton Terrace, Exeter; Villa in Stoke Davarel, Plymouth. John Foulston, Architect 2

Diagrams Showing Results of Tests into the Acoustic Properties of Doors and Windows ... 2

Architects Working Drawings. 14.—New Premises in Moorgate Street, London, E.C. Details of Lower Stones. Richardson and Gill, FF.R.I.B.A., Architects 212, 2

Machine-Shop Extension at Witton, near Birmingham: Wallis, Gilbert and Partners, Architects. West Elevation, 216; Plan and Section, 219; General View 2

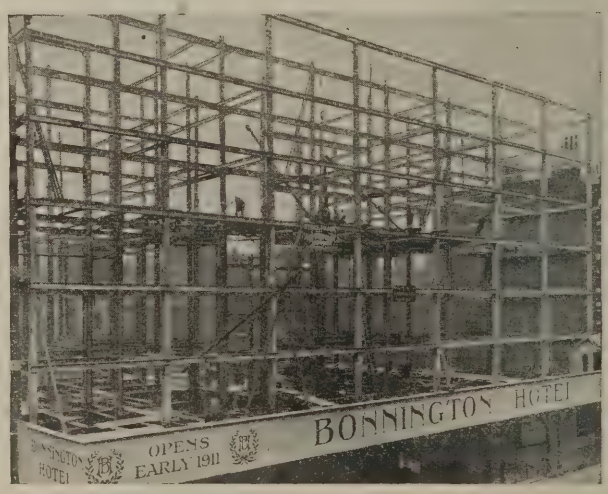
Modern Domestic Architecture. 16.—A Pair of Bungalows at Worcester: Elevations, Sections, and Plans. Henry Rowe and Son, Architects 2

DAWNAY DEFINITIONS—4.

SERVICE

SERVICE, as we offer it to you, means the closest attention to detail, rigid adherence to promised delivery dates, and all those things which when backed up by perfect material produce the perfect reason for you to send us your enquiries for constructional material.

STOCKS OF British Standard Sections in Joists, Channels, Angles, Tees, Flats, etc.



ARCHIBALD D. DAWNAY AND SONS, Limited.

Telephones: Battersea, 1094 (3 lines).

Steelworks Road, Battersea, S.W.11

Telegrams: "Dawnay, Battsquare, London."

Telephone: Cardiff, 2557.

And at East Moors, Cardiff.

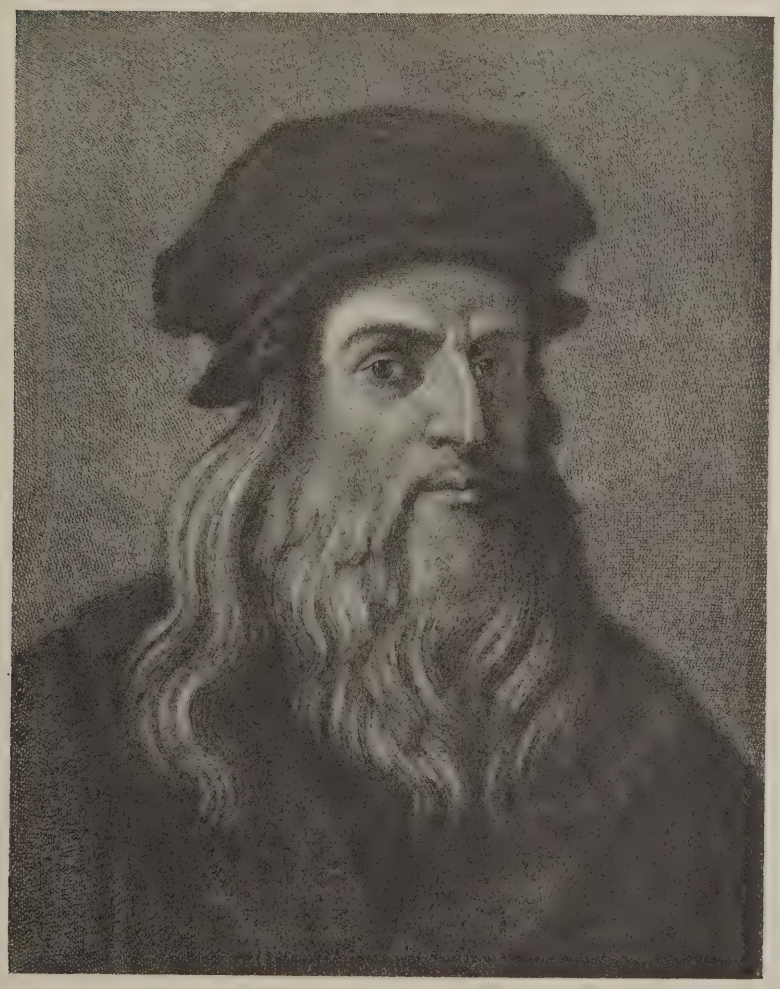
Telegrams: "Dawnay, Cardiff."

ednesday, August 25, 1920

Volume LII. No. 1338

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

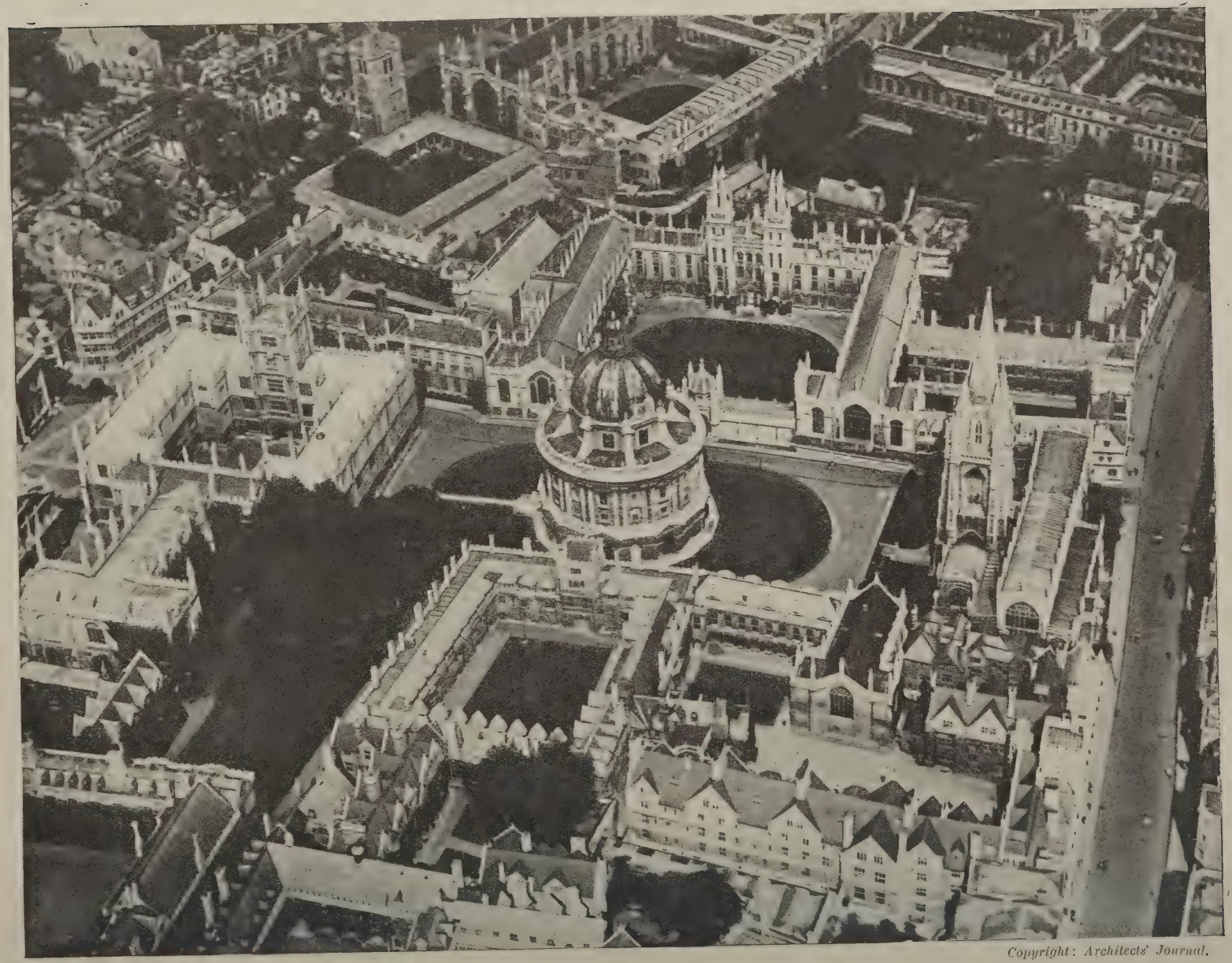


LEONARDO DA VINCI

Born 1452, died 1519. In the fine arts he was the most accomplished painter of his generation. He was distinguished also as sculptor, architect, musician, and inventor. Has been called the Faust of Italian Renaissance. The works of art he produced were of an excellence unapproached by his contemporaries and only rivalled by men who came after him and profited by his example. He designed a cupola for the cathedral of Milan, and was consulted on the works at Certosa di Pavia. His architectural and engineering projects, though only a small part of his prodigious output, were of a daring which amazed even the fellow citizens of Alberti and Brunelleschi.

27-29 Tothill Street, Westminster, S.W.1.

Air Views of Buildings. 1.—The Colleges of Oxford



Copyright: Architects' Journal.

This is the first of a new series of illustrations showing how famous buildings appear to the aviator. Other examples—embracing general views of cities as well as of individual buildings—will appear week by week. In the above view we see Gibbs's Radcliffe Camera in the centre, with the Bodleian Library on the left and St. Mary's Church and the High on the right. Below is Brasenose College, and above All Souls' and

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.
Wednesday, August 25, 1920
Volume LII. No. 1338

Notes and Comments

High Tendering for Housing

THE Ministry of Health is scandalised at high tendering. It seems that the average of the tenders received by local authorities has risen continuously since the beginning of the year, nd that also there is a wide variation between the mounts of the tenders received in different parts of the ountry. The Minister "is convinced that the high enders now being received by many local authorities are ot justified by the facts," and he advises the immediate ejection of any tender that is obviously unreasonable. Vhile we are by no means disposed to say a single word defence of extortionate tendering—in fact, we would ladly see any wilful instance of it severely punished—e would remind the Minister of Health that his department is largely to blame for the encouragement of xtravagant prices. As long as he lays any sort of conraint on the natural course of the industry and the ormal trend of the markets, so long will builders feel mpelled in mere self-protection to make tenders that e calculated to guard them against losses that may sily occur in consequence of harassing and artificial nditions and restrictions. That some builders are tenring much lower than others is because tendering der the present highly artificial conditions is rather of e nature of gambling, and some are taking risks more cklessly than the others. Another reason may be that ilders undertaking housing work because other and ore remunerative classes of work are arbitrarily denied em, find it difficult to come down to the lower rates.

London University Site

Lord Dawson of Penn has written to "The Times" lucational Supplement advocating a more spacious e for the London University buildings than t at Bloomsbury. "Is it not obvious," he s, "that a university needs space? Space the expansion of its teaching, space for the lateral activities which will usefully grow around space for a residential and community life ich gives its students health and a sense of citizen-o?" Kenwood, he urges, affords the requisite conions. "It is a site of fine elevation, on the edge of city; it is geographically well placed, and in these s of improved transport communications like tube ways would rapidly follow the extension of the city; cost would be far less than that of the other sites proed, its potentialities would be greater, and its beauty ld be preserved." Of course the preservation of the l amenities of Kenwood is a very desirable object, but d Dawson will not pretend that it is more than a side e. His allusion to it, however, is rather seriously ounted by his reference to the tube railways and r means of transport that would speedily follow the ding of the university. It is plain that there are conng ideas of what and where London University is or ought to be. The Government notion seems to be that the University wants a central home for its Senate and for the general purposes of administration. Lord Dawson seems ambitious of laying out a new university city, with ample scope for expansion, saying nothing, however, about the enormous quantity of land that must be forthwith acquired as a provision for that expansion, and acquired at once to prevent its diversion to other uses. But one does not want to be obliged to take a tube journey into the suburbs to see some outward and visible sign of London University. Its colleges and affiliated institutions may be scattered—as indeed they are—in various quarters of London, urban and suburban, where there is room for indefinite development; but we want a noble building for it in London itself. Without such a building, standing prominently and definitely for education, as the Abbey and St. Paul's do for religion, as the Houses of Parliament do for legislation, as the National Gallery does for Art, there is no need to worry about expansion: provision for it can be made by the erection of more colleges in the suburbs as required. We remain strongly of opinion that the central building for London University should be in the heart of London, not in its outskirts.

Resignation of Sir James Carmichael

We share in the regret expressed officially from the Ministry of Health that Sir James Carmichael, Director-General of Housing, has tendered his resignation of that post. We are more sorry than surprised to hear that ill-health is the reason for his withdrawal, for the arduous and troublesome nature of the duties he has fulfilled with so much patience and skill would break down a constitution of case-hardened steel. The Ministry of Health is the worst-worried department of the Government, and knowledge of the tremendous strain that has been put upon it, of the unprecedented conditions with which it has had to deal, and of the incessant badgering to which it has been subjected, would turn away the wrath of the most stony-hearted of critics. Certainly Sir James has earned his title; what is more, he has got it; but why was Mr. Ernest Newton, who did equally valuable work, fobbed off with an O.B.E.? And, again, why is an assistant secretary of the Ministry appointed to take Sir James Carmichael's post? Surely an architect or other building expert should have succeeded to the position.

The Outlook for Bricklayers

"Punch" is greatly struck by the high rates of pay and easy conditions of labour supposed to be prevalent in the building trade. He is never tired of gibing at the bricklayer, who has now entirely superseded the plumber as the butt of the professional humorist. One of Mr. Punch's merry men affects to have started a correspondence bureau, whence is answered the inquiry of a

mother, anxious to hit upon a career for her only son. "If he should determine on a career involving manual work, I should take steps to have him initiated into the Art and Mystery of Bricklaying. At the rate we are moving, the working hours would probably be about eight per week, with approximately eight pounds per day salary, by the time he arrives at bricklaying maturity. It is difficult to say yet whether he would have to graduate in Commerce before being eligible, but probably this would be necessary, as the best bricklayers, I'm told, always carry a mortar-board, and there is a sort of caucus in these plummy professions nowadays that is anxious to keep outsiders from joining their ranks," Mr. Punch's statement of the prospects for bricklaying may be passed as substantially correct, in spite of one or two slight errors of detail—for example, he has been misinformed as to the practice of carrying mortar-boards. Any bricklayer caught doing labourer's work would be beheaded on the scaffold.

Mystic Rites of Land Transfer

The land laws will really have to be simplified. Hundreds of persons who never bothered their heads about them are now busy taking notice of them. For example, "An Ambitious Amateur," driven by force of circumstances to build his (or perhaps her, for the experience is related in the "Woman's Leader") own house, had some difficulty in getting hold of the land. "It is three acres of copse and four of field on a south slope, overlooking Sussex valleys and the South Downs. It took me three months of constant correspondence of a forcible nature to succeed in completing the purchase. Apparently, the sale of land is accompanied by rites as ancient and mysterious as Druidical ceremonies. My solicitor and I exchanged twenty letters and two visits before we could persuade the owner to pocket the cheque." And the laying-on of the water seemed to be "a ceremony no less obscure than that of buying land. I have a pile of thick blue letters and a couple of long interviews in my memory." There were easements and way-leaves, and other mystic variants on abracadabra to consider, and the preposterous demands of the water company had to be met with a straight face and an equable mind.

Air Views of Buildings

What a building looks like from above is a matter that often agitates the architect who does not aviate. It is still more interesting when the architect happens to be also an enthusiastic town-planner, who knows that the view from above—the bird's-eye view as it was formerly called—gives the best possible conception of the relation of buildings and of roads and streets and passages one to another. From every new view of a subject there is something to be gained, and a building, or a congeries of buildings that form a city, town, or hamlet, will, as seen from aloft, offer much in suggestion—more especially, one may imagine, with respect to lay-out. Fortunately it is not necessary for the architect to go up into the air in order to obtain this new point of view. As a necessity of war, aerial photography has been scientifically developed, and as its results are extremely interesting. In the hope that they may also prove to be extremely useful (and, by the way, aerial photography is rich in promise of important developments in land-surveying) we intend to produce week by week a series of air views of buildings, and the series will eventually comprise the chief cities in the kingdom. This week we show (p. 196) the colleges of Oxford, and in glancing at these views one is struck by the thought that one's customary point of observation is strangely defective—that without the aerial or bird's-eye view it is impossible to see buildings in three dimensions. There is, of course, the small model, but that cannot compete with the actual building as seen now—thanks to aviation—from every possible point of view.

The Lincoln Statue and Some Othe

It is fortunate that the magnificent Lincoln statue Parliament Square is cast in bronze, as a replica w almost bound to be. For a destructive climate like th of London, bronze is your only wear. Perhaps a fe American business men are regretting that an Americ stone was not used, but the chances are that it would r have weathered well. And if any statue or monume were to be put up in London as a sample of foreign sto the members for Aberdeen would probably be co manded by their constituents to urge the claims Rubislaw granite as a statuary stone. This is no f fetched fancy. In Aberdeen there are one or two statu cut from the native granite. They are extremely w done; for if Aberdeen granite be a stubborn materi the Aberdeen sculptor is a determined man, and achieved those granite statues—one to the last Duke Gordon, and the other to "Priest Gordon." Their effect is proof to demonstration that Aberdeen grar is about the worst conceivable material from which hew a statue, although it does very well indeed for l exacting shapes. By the way, what a noble pedesta formed from the rough-hewn blocks on which stands grand figure of Sir William Wallace in front of Majesty's Theatre in Aberdeen. This is surely most impressive monument in the kingdom.

Mr. E. A. Rickards's Drawings

Our publishers request us to state, in answer to m inquiries, that the important new fine-art volume in wh the architectural and other drawings and sketches Mr. E. A. Rickards, F.R.I.B.A., are collected for first time is now in active preparation, and will be p lished early in the approaching autumn. It is added subscriptions are already coming in so rapidly as presage a large demand. Readers are therefore adv to book their orders without delay, otherwise they not be able to procure a copy without difficulty, eve an enhanced price. The collected works of this dis guished architectural draughtsman are a most covet possession, and evidently the book comprising them fair to be one of the greatest successes of the forthcon publishing season. The drawings, the selection of w has been supervised by Mr. Amor Fenn, will be acc panied by letterpress contributed by Mr. Arnold Ben and Mr. H. V. Lanchester, F.R.I.B.A., who both long been close personal friends of Mr. Rickards. former, himself an artist of no mean accomplishmen well as an eminent novelist, essayist, and art critic, plies a general "appreciation" of the work of Rickards, while Mr. Lanchester naturally deals wi more strictly from the architectural point of view. S of the drawings have been carefully reproduced fron original water-colours, which reveal the artist a uncommonly sensitive colourist; and while the bu his work is architectural, the dash and freedom which it is rendered explain quite fully his success i selected caricatures and other sketches which compl volume of rare variety and charm.

Revision of Statues

A threatened raid on London statues has reported. A writer in the "Manchester Guardian" tradicts the rumour, which, he says, probably from talk among the City magnates of removing statue of William the Fourth from King William S where it obstructs the traffic without adorning the s Our contemporary makes a very sensible sugge "Why," he asks, "should not statues be placed porarily on the pedestals, as at an exhibition, changed at intervals of a generation or so in accor with the change of taste and of historical val Occasionally statutes are revised. Then why not sta As our contemporary says, statues should inspir well as commemorate.

The Week's News

Mr. Septimus Warwick

Mr. Septimus Warwick, F.R.I.B.A., recently returned om Canada, has recommenced practice in London at 2, Hyde Park Square, W.2 Telephone number, Padngton 7119.

"New Town"

An international conference is now being held at eble College, Oxford, under the auspices of the New own Council, to listen to and discuss proposals for the unding of a new town, where the principles of co-operaon and association in the service of the community n be put into practice. There is to be common ownerip of land.

Subsidised Builders

Mr. E. G. Pretyman has asked the Chancellor of the xchequer in the House of Commons whether the £150 ant, made under the Housing Bill to those who ected houses, was subject to income-tax. Mr. Chamrlain replied that the grants would not be chargeable income-tax except so far as they formed part of the ofits of the builder.

R.I.B.A. Architectural Studentships

In view of the increase in the cost of maintenance and vel since the war, the Council of the R.I.B.A. have cided to make the following increases in the value of I.B.A. studentships: The Henry Jarvis Travelling identship.—Tenable at the British School at Rome; rease from £200 a year for two years to £250 a year two years. The Henry Jarvis Travelling Studentp.—Tenable at the Architectural Association ondon); increase from £40 to £50.

London Architecture Atelier

The University of London, on the advice of their hitectural Education Committee, have decided to itute as from October next an architecture atelier for study of advanced architectural design. The atelier be established at the Bartlett School of Architecture University College, and will be under the direction of fessor A. E. Richardson, F.R.I.B.A., assisted by J mes Burford, A.R.I.B.A. The atelier will be n during term time, from 9 a.m. to 10 p.m., and memship will be limited to thirty.

New Housing Bill

n a new Housing Bill, which has just been introduced ne House of Commons, the Minister of Health seeks er to check luxury building in certain cases not red by existing law, and to extend by twelve months period during which housing subsidies will be paid uilders. Powers will also be conferred on local orities to enable them to provide houses outside their areas; to provide housing accommodation for their employees; and to hire compulsorily houses suitable he working classes that have been withheld from pation for at least three months.

The King Edward Statue

r. Bertram Mackennal's equestrian statue of King ard, now completed in plaster, has been inspected the King and Queen at the sculptor's studio, lers Green. It is understood that Mr. Macal's work met with complete approval. The e, to be cast in bronze, is of heroic, not colossal, proons, the figures of rider and horse being modelled e and a half-time life size. King Edward wears the lress uniform of a Field-Marshal, with the broad d and jewel of the Garter and many other decora. The height of the statue is 14 ft. and the pedestal. n is to be either of granite or of Portland stone, will tween 14 ft. and 15 ft., giving a total elevation from the ground of about 29 ft. The monument is to take the place of that erected to the memory of Lord Napier of Magdala at the end of Waterloo Place, which will be removed to Trafalgar Square, where a pedestal is in readiness.

Bill Sikes's House

The scheme of the London County Council for demolishing Jacob's Island, Bermondsey, will remove the house described by Dickens in "Oliver Twist" as the scene of Bill Sikes's death. This building stands at the back of a house in Eckett Street, at that time known as Edward Street, in a court named Metcalf Court, which was partly swept away when the mill streams surrounding Jacob's Island were covered in. The house is now occupied as stables. In the time of Dickens it overlooked Folly Ditch on one side, and was approached by two wooden bridges across the mill stream.

Architectural Partnerships

Mr. T. E. Collcutt and Mr. Stanley Hamp have taken into partnership Mr. A. B. Llewelyn Roberts. The title and address will remain as before—Messrs. Collcutt and Hamp, 20, Red Lion Square, W.C.1.

Mr. Henry T. Sandy, F.R.I.B.A., of 22, Greengate, Stafford, and Birmingham, has taken into partnership Mr. E. Bower Norris, A.R.I.B.A. The firm will in future be carried on under the style of "Sandy and Norris," and the practice which Mr. Sandy acquired from the executors of the late H. O. Hill at 9, Albert Square, Manchester, will in future be carried on at that address under the style of "Hill, Sandy, and Norris."

Sir James Carmichael Resigns

The following official announcement is issued by the Ministry of Health: Sir James Carmichael, K.B.E., Director-General of Housing, has, for reasons of health, tendered his resignation, which the Minister has accepted with great regret. Consequent upon the retirement of Sir James Carmichael, the Housing Division of the Ministry has been reorganised and placed under the charge of Mr. E. R. Forber, C.B.E., an Assistant Secretary of the Ministry. Mr. Forber will be assisted by Mr. R. B. Cross, O.B.E., Assistant Secretary in charge of the Administrative Branches; Mr. Walker Smith, Director of Housing; and Mr. Stephen Easten, Director of Production. The work in connection with Town Planning and Unhealthy Areas will be under a separate Assistant Secretary—namely, Mr. I. G. Gibbon, C.B.E., who will also continue temporarily to be in charge of the special branch which deals with Housing in London.

The Cost of Housing

The Ministry of Health announce that, in view of the fact that 140,000 tenders for building houses have now been finally approved, and that in most districts, therefore, active house building should be in progress so far as the supplies of labour will allow, the Minister of Health is issuing instructions to the Housing Commissioners with regard to the continuous rise in the cost of houses. While the average of the tenders received by local authorities has been progressively rising since the beginning of the year, there is a wide variation between the amounts of the tenders received in different parts of the country, and the Minister is convinced that the high tenders now being received by many local authorities are not justified by the facts. In future, therefore, in such cases, unless it is evident that a tender can readily be brought within a reasonable figure, the local authority will be warned by the Commissioners to reject it without further delay and to prepare alternative proposals which will reduce the cost to reasonable limits.

(*Concluded on page 222.*)

The House of a Great Artist

THE late Sir Laurence Alma-Tadema's residence in St. John's Wood—which is now offered for sale—may be said to have been the record of his life, "written in great syllables of colour and form."

At a cost of over £70,000, he filled the house with tapestries, marbles, metals, and precious woods, and just saved the whole from becoming a mere museum by the greatness of his artistic individuality. But of the force of that individuality the individual himself seems to have been least confident, for the initials of his name are burnt in on every tile, woven into every piece of stuff, empanelled on door, floor, and ceiling, as if he had been a little fearful lest it might be overlooked. Never; when one is surrounded, as here, by things he must have worked and waited for, with a place standing vacant for each treasure, which, when secured, was put so confidently in its place, one realises that the place has become his very self.

Though it is the house of a great artist, there are not many pictures—the panels and the woven tapestries, the fine vistas, the goodly proportions, are themselves t picture.

The great domed studio—over twenty feet high—said to be the finest in the world. In any case, it "absolutely unique." The big north-light wind gives full upon a Byzantine apse, hung with Tunis embroideries in rose velvet, and roofed with shin aluminium. The cold light of day is goldened passing through windows of thin onyx, and gleams so upon walls panelled in green marble. If one n descend to what would seem the least detail of t temple, the egg-and-tongue moulding worked upon back of a semi-circular seat in the apse is said to h taken two years to complete.

The front door of the house is set in bronze "cast fr the door frame of a house in Pompeii," the entrance is floored with Persian tiles, and white marble st lead to an inner hall where over the huge open f place are inscribed: "I count myself in nothing else happy, as a soul remembering my good friends." the friends he had! The very floor of this inner ha tiled from a friend's design, the walls are finely de

THE LATE SIR LAURENCE ALMA-TADEMA'S STUDIO IN ST. JOHN'S WOOD.

ted by their brushes, and can one ever forget those atherings where were assembled all the men whose mes were first in literature, music, and the arts?

The private library and writing-room is built like the trium of an old Roman house, with Pompeian ceilings d walls af alabaster, and from it ascends a staircase ading up to a gallery overlooking the grand studio, pluvium, and palm house.

There is a second studio, used by Lady Alma-adema, for she also was an artist, and had her own orkshop, and there is even a third studio—in the rden, and only telephonically attached to the house.

"If a man's talk is of oxen, he will dream of oxen," ys De Quincey. In Sir Alma-Tadema's best bedroom white and fine old gold and costly Japanese paper—e will not dream of oxen, however the day has been ent, but will out-dream the opium-eater himself.

It was no ordinary soul who thought out the details of ch a home. The very doors are different from other ors, and are constructed so that the two faces are of od matching the two rooms. Nor did their fitting isfy this fastidious mind, but they had to be made with pecial flange overlapping the jamb, and special hinges ed accordingly to give the necessary clearance for ening. Is there a golden staircase up to the studio? en such must be appropriately lighted, and a perfect arvest moon," a full orb of onyx laden with fire, shines on it clear by reflected light.

t was hoped by all that this memorial of so great an ist might pass into the keeping of the people, but eady one sees poised the auctioneer's hammer, and urs that warning and infinitely disturbing "Going—ng—?"

DOORWAY AND BRASS STAIRCASE IN HOUSE OF THE LATE SIR LAURENCE ALMA-TADEMA.

rchitectural Causerie: East of the Tower

NAUTICAL London begins at the Tower, some people of authority say "within the silver walls of Trinity House; others, who are precisians, opine the Customs House to mark the its of Neptune's rule. To wander at random is the y way in which to sympathise with the moods of this t city. It is necessary, for the time being, to assume cloak of Haroun al Raschid, and forget the pomp and emony of the West End, in order to appreciate the overies and wonders of the East. Reader, let us ch together beneath the galleries of the George at thwark, and afterwards explore the bedrooms of curious hostelry; let us stroke the mahogany furni- from the gallery, exchange badinage with the goners in the yard, return to the snuggery, check watches by the Act of Parliament clock, pay our , and cross London Bridge."

* * *

ow that the Pearl Buildings are being demolished, we a view of St. Magnus from the Surrey side such as sed John Rennie before Smirke erected his unworthy des. I would that this view could be kept to rht posterity, but it is rumoured that the plans are y for mocking Wren's column and steeple. We inue our quest for the surprises of nautical London lescending into Thames Street, advancing past the walls of the Customs House, and approach Tower

To wander about this quarter profitably it is ntial to know something of its past. An additional est attaches to the aspect of Trinity House, per-, because we know that Benjamin Wyatt was the itect, although it is said that brother James made the rn. We will not grudge either of these redoubtable ts the credit due to them. A little further on we re the mole-coloured surtout of the Crooked Billet, n the fashion of 1750. Then we notice the fortifi-ns hereabout, particularly those extending from the Norman Keep with its Elizabethan trimmings to the moated courtyard of the Mint, and probably speculate whether the stagnant water is the same that Smirke knew when he enclosed Johnson's work. By the way, Johnson's original drawings, plans, and elevations for the classic money factory repose in one of the Library drawers at Conduit Street. As we turn, the stolid Doric of St. Katharine's Dock House completes the setting and intervenes to spare our eyes the sight of the tinned architecture above the bascules of the mechanical wonder connecting Middlesex with Surrey.

* * *

At this point London takes on a different character. Here her old mercantile buildings wear an air of indescribable insolence, forming a hiatus aristocratic to a degree—one, moreover, mercifully free from fustian, secluded and guarded by impenetrable outerworks, baileys, garths, and bastions. Those who gaze upon the dour features of Hardwick's Dock House, without taking the trouble to explore the other side, can never claim to have a full knowledge of the Port. John Rennie shaped St. Katherine's Dock to receive the brigs and small merchantmen of George the Fourth's time, while the task of scheming the gigantic storehouses fell to Hardwick. There they stand, these brick packing-cases, propped from the quay side upon cast-iron columns moulded to resemble the colonial prototypes of Dorian Sicily. Here the merchandise is neatly ordered. Within the basin lie small steamers of two thousand tons in place of timbered ships and tapering masts. There is nothing to offend the most fastidious critic. There are even those among us who turn covetous eyes towards the front of the office building heading this parallelogram of water, which stretches like an arm of the sea between steep headlands. The gulls complete the illusion—nautical London begins here.

(To be concluded.)

Stone for Westminster Abbey

Opinions of Distinguished Architects

THE following interesting views with regard to the selection of a suitable stone for the restoration of Westminster Abbey are extracted from correspondence published in "The Times."

Mr. Somers Clarke

Mr. Somers Clarke says: May I be permitted to offer a suggestion on the nature of the stone to be employed in carrying out the repairs at the Abbey Church? I have had some experience of the sufferings endured by masonry in London, as I have not only held the charge of St. Paul's Cathedral for a good many years, but my late partner, Mr. J. T. Micklethwaite, was, during much of the same time, in charge of Westminster Abbey. On many occasions during Mr. Micklethwaite's absence, having spent all the morning at St. Paul's Cathedral, I have hurried back to spend a long afternoon at the Abbey Church, clambering about the exterior of the building. In each case the decay of the stone was one of the chief causes of anxiety.

The Abbey Church was built very largely of Reigate stone, at that time the most accessible building stone to London. It is a sandstone, by no means of fine quality. But early in the reign of Henry III. what means of transport existed to bring a better material to the site? Good sandstone, it is well known, will stand the trials of a town atmosphere better than limestone. In the case of the Abbey Church more than 300 years ago there were bitter complaints in regard to the terrible destruction which it was suffering from the depredations of "the coal smoke."

The most recent part of the Abbey Church is Hen— VII.'s Chapel, in building which nothing was to be spared to attain perfection. The King directs in his will that "the chapel shall be finished in as good a manner as to a King's work apperfeignith": yet Sir Christopher Wren reports that "it is eaten up by our weather," whilst Dart, whose history of Westminster Abbey was published as far back as 1725, tells us that statues on the exterior were pulled down for fear they should fall on the heads of the passers by.

With Wren comes in the reign of Portland stone. At that time the north front of the transept was a deplorable ruin. It was encased (and not a little changed in its form) with Portland stone.

Speaking generally, may we not call the period of the works referred to as belonging to the beginning of the eighteenth century? The works then executed were of a rather miserable nature. The flying buttresses, so important in maintaining the vaulted roofs, were, many of them, perished to a depth of three or more inches, and this over their whole surface; they were consequently thinner by some eight inches than they should be. These were skinned until a clean, new surface was arrived at; thus their strength and constructive value were seriously diminished. The clerestory walls were similarly treated.

As for the north transept before referred to, the vertical surfaces of this were "flagged," as Mr. Lethaby has related. Many a time during the progress of the recent reconstruction of this façade I have looked down into great chasms five or six feet deep between the crumbling surfaces of the ancient structure and the miserable "flagging" with which it had been disguised. There were severe critics of Mr. Pearson's drastic "restorations" of this façade, but the new work was, at any rate, as sound and solid as possible. In this work Chilmark stone was, I think, made use of, and some of it is already perishing. It is a limestone.

In the year 1864 I entered Sir (Mr.) Gilbert Scott's office as a pupil. He was at that time architect to the Dean and Chapter of Westminster, and never ceased to encourage his pupils to study at the Abbey Church. From that date I have seen all the works going on at the fabric. I can say, with really intimate knowledge, that one was many times forced to wonder how such perishing masonry maintained its position.

We now comes to the question of the use of Portland stone. This material at the Abbey Church has perished and is now perishing. It is stated that all works of repair are to be executed in Portland stone. May I ask what are its particular merits? Let us enquire how it has justified itself in times past.

We have in St. Paul's Cathedral a very great structure, the exterior entirely of Portland stone. Compared with the Abbey Church, we may almost call St. Paul's a modern building. It was begun in 1675. In 1697 the eastern limb was complete and used. We learn that the walls west of this were, at that time, also carried up to a great height. Very large surfaces were therefore exposed to the weather and London filth. From 1697 to 1920 is 223 years. The masonry of the lantern surmounting the dome was finished in 1710. From that date to this is but 210 years. What a short period this is in the age of a great monument! What is the condition in which we now find this masonry to be? It has perished with great uniformity over its whole surface to a depth of about half an inch. The suffaces of the stonework lower down have perished, but to a slightly lesser degree; wherever we observe the surfaces to be clean and white there the degradation is going on.

Portland stone is full of little fossils. The sulphurous ingredients of the London air do not attack these fossils. By the height which they now stand up above the existing surfaces it is easy to tell what the degradation has been. It is to be feared that the public is under the impression that when it sees Portland stone "nice and white" its admirable qualities are displaved, when in fact it is the gloomy black surfaces that are well preserved.

The evil rests with the British public—its wasteful indifference and misuse in the burning of coal. A letter has already been published in your columns calling attention to the millions of money sent up our chimneys, and the millions of money lost in damage to ourselves and nearly all substances. Have we no hope? Will the public never mend its ways? In the meantime must all we now hope to do in repair begin immediately to perish? Why must we make of limestone? It is quite well known sandstones of suitable quality are more sistant than limestones. Let us com like with like. In the North of Eng and South of Scotland are towns more ribly smothered in a perpetual night even London. Let us take Glasgow a example. Yet I think it will be found masonry in that city is not so quickly integrated as in London. How is the in Liverpool or Manchester? Is not s stone made use of?

May the suggestion be made tha small commission of three or four co tent men be assembled who shall be structed to travel around, to see for t selves what may be learnt on this sub before it is too late?

Professor W. R. Lethab

Professor Lethaby states that we ha the western towers of the Abbey Ch experiments in the use of Portland actually built and nearly 200 years Apart from the injury caused by the taken use of iron in these structure stone is generally very well prese Portland stone in London decays slowly, the surface falling away in po while below it the stone remains s The other stones which have been seem, on the contrary, to rot to a con able depth. Continuing, Prof Lethaby says:

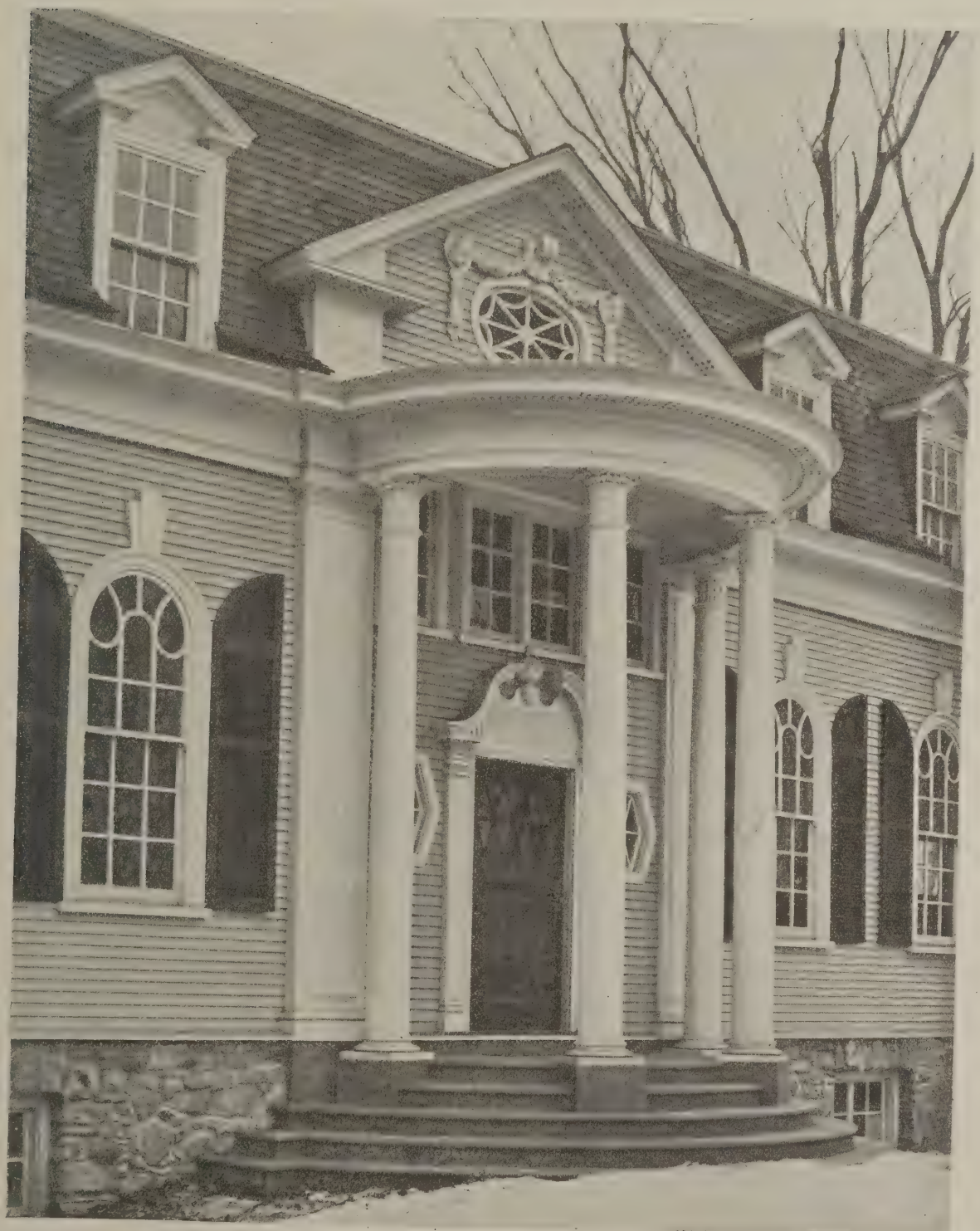
I write now to call attention to the ge problem of stone preservation in ou mate, and especially in large cities. modern stone buildings should, I be be coated over the surface with a pre tive wash as a regular part of bu procedure. The custom has bee "clean off the work" at the end, le all the pores of the stone open fo agents of decay to begin their acti once, especially at the joints o masonry, which are often s recessed, so that moisture will lodge The jointing should be flush and firm the whole surface of the stonework s be covered with a wash of lime tin the colour of the stone, or with som plication which will stop the absorpt moisture. Only last week a liquid was brought to my notice which is tically colourless and seems at first to be remarkably successful. I fin people think they would dislike washes as being in some way "impr but the use of lime in this way was tional in the Middle Ages, and it w at all introduced by churchwardens. myself, I have come to dislike ra naked new stonework, as I cannot what is happening to it unrestingly.

Mr. Edwin J. Sadgrov

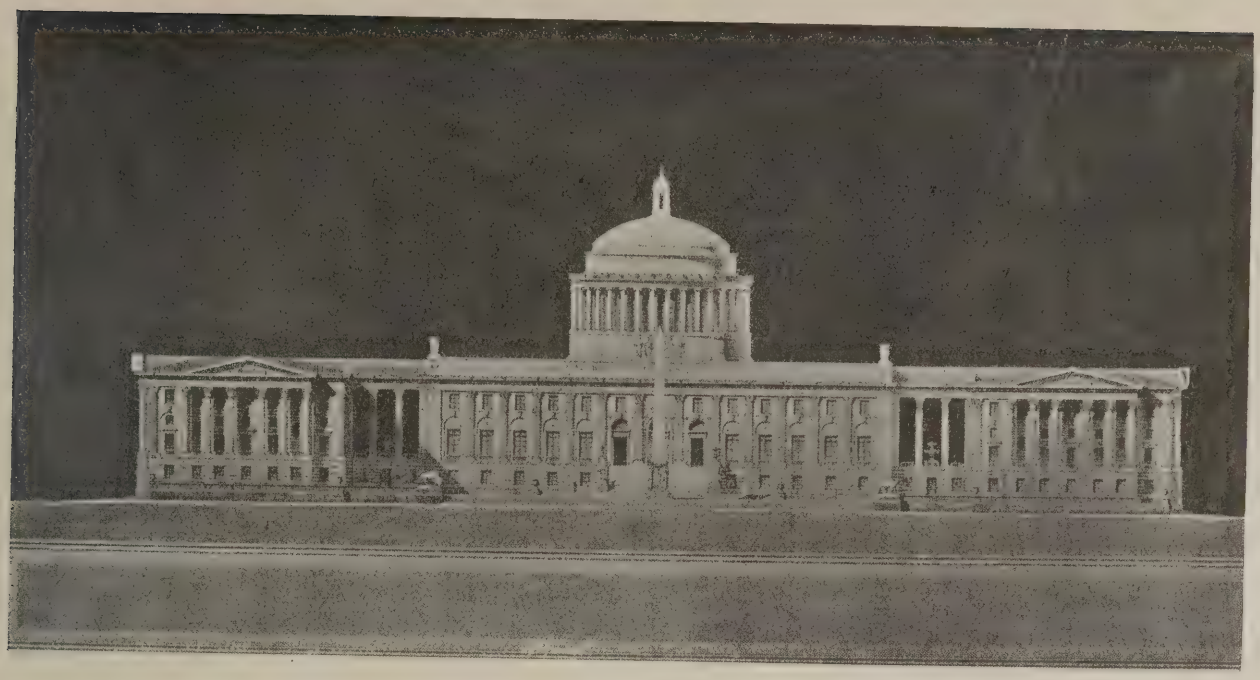
Mr. Edwin J. Sadgrove, President Society of Architects, remarks th letter of Professor Lethaby co sound and valuable advice for the c nity generally, and it is in addition indication that at least some of our l architects are shaking off the cloak judice which has retarded for many the preservation by artificial means of work in our historical and monu fabrics. I have had (he continues) p as large an experience as any ar

Modern Domestic Architecture. 15.—House at Dorval, Quebec: Detail of Entrance Front

Septimus Warwick, F.R.I.B.A., Architect



This house, built for Mr. J. J. McGill, stands on the lakeshore and is erected partly on the stone foundations of an existing house. The construction above the ground floor is entirely of wood, with cedar shingles on the roof. Internally the rooms are panelled with British Columbia fir, the frieze and ceilings being covered with Beaver Board with wood stripping over the joints. The lake shore front has a large verandah, with the principal rooms leading into it from the house. Above this verandah is a gallery, access to which is obtained from the bedrooms and dressing rooms on the lake front.



NEBRASKA STATE CAPITOL COMPETITION. DESIGN SUBMITTED BY McKIM, MEAD, AND WHITE.

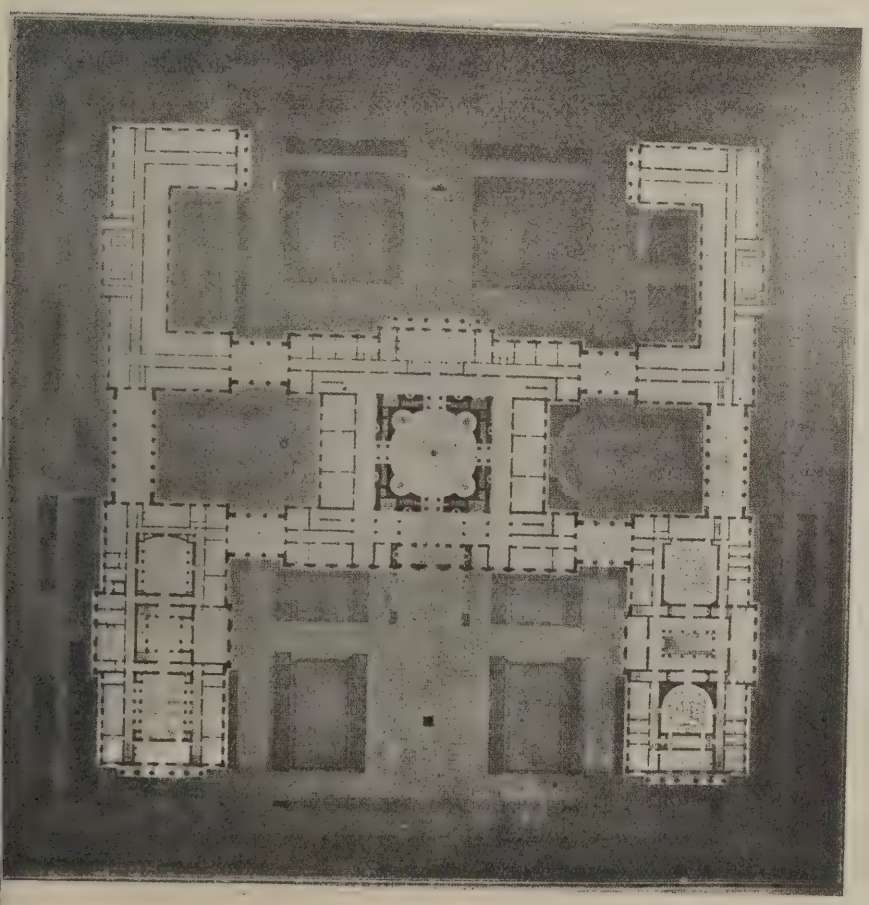
This design shows how, although the principal members of this famous firm of American architects are now dead, the traditions of the office are still being carried on by their successors. The winning design was published in our issue for August 11, together with particulars of the competition.

this country in restoring and preserving onework, so I think I can fairly claim speak with some authority on the bject.

The Professor is quite right when he commends that a preservative fluid ould be applied to the stone when the ilding is erected, but I strongly disagree hen he suggests that the preservative may be a "limewash." My own personal experience shows that to cloak the stone with anything in the nature of a thick material such as "limewash" or "cement slurry" does more harm to the stone than leaving it untouched. The proper thing to do is to use a colourless "solution" which should soak into the stone, its effect being to harden the face without either discolouring or concealing the natural grain of the stone. Such a solution is obtainable, and I have used it with marked success for many years. The danger of using a "slurry" or "distemper" is that in a comparatively short time the "slurry" deteriorates and allows the rain to get between it and the stone, retarding evaporation and accelerating decomposition. If stonework in London is periodically brushed down and treated with preservative as before described, it will withstand all the stone-destroying elements in our London atmosphere.

So much for the preservation of the stone. Now with regard to "restoration." I claim that where large stones are decayed, even to the depth of several inches, there is no justification for destroying the remainder of the block by chopping it out in order to replace a new stone. In the first place, it is a slow process and very costly; secondly, the jarring of the mason's tools disturbs and loosens the joints of the fabric immediately adjoining; and, thirdly, you are destroying a great deal more of the ancient stone than there is any need to do. There is, in my opinion, a better way of doing it, which I have adopted for many years, and that is, to cut away all the decayed parts back to a clean face, and then build forward from that face with a composition which forms a chemical adhesion to the old stone, and which can be carved, moulded, and worked just the same as quarried stone, and which cannot be detected from it; but yet for many years there has been strong prejudice against it. In fact, I have had the old stone from an ancient fabric actually crushed up and reconstituted and used in the repairs, which I submit is a more justifiable way of carrying out restoration than inserting large quantities of new stone which have no connection whatsoever with the historical edifice.

In these times, when work of all kinds is so extremely costly, a system such as I have mentioned might be utilised to great advantage in the Abbey restoration.



PLAN OF McKIM, MEAD, AND WHITE'S NEBRASKA STATE CAPITOL DESIGN.

Acoustic Properties of Doors and Window

IT is important to distinguish at least two different processes by which the mechanical vibrations of a musical instrument or other source of sound in one room may result in the aerial vibrations of sound in an adjoining room. If the vibrating source is in solid contact with the floor, then the vibrations may be conducted directly to the floor, and thence along timbers or beams to the floor of adjacent rooms, there to give rise to the aerial vibration. A large proportion of the sound from a piano, 'cello, or any stringed instrument resting on the floor, as well as the hum of motors or machinery, is transmitted through buildings in this way. In the second method of transmission the alternating pressure of the sound wave in one room produces vibration of walls or partitions, which in turn communicate their motion to the air of the adjoining room. This latter method was adopted by Professor Paul E. Sabine for a number of important investigations into the acoustic properties of doors and windows made of impervious materials. A plan showing the arrangement of the sound chambers and the test chambers is given in Figure 1. The very low absorption of sound by the walls of the sound chamber makes the duration of audible sound very great, thus allowing considerable precision in the measurements.

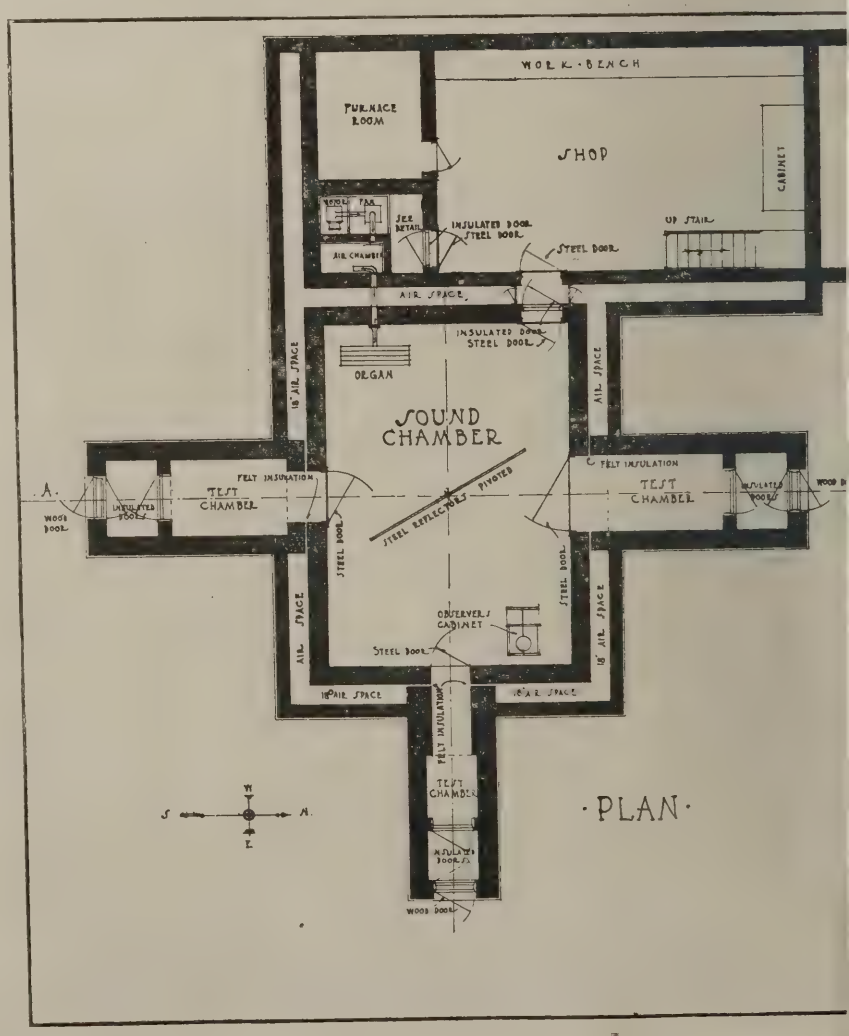
In describing his investigations in the "American Architect," Professor Sabine says: What has been determined is the ratio of the intensities of sounds covering the whole range of frequencies ordinarily used in music and speech, i.e., 64 to 4,096 double vibrations per second, on opposite sides of doors and windows of various sorts. Thus sound of the pitch violin C (512 double vibrations) is reduced in intensity in the ratio of approximately 100 to 1 in passing through a light panelled birch door, and in the ratio of 1,000 to 1 in passing through a steel door one-quarter of an inch thick. The significance of such figures is more apparent if it is recalled that in the open air at a distance from all reflecting surfaces the intensity of sound from a constant source decreases as the square of the distance increases. Thus increasing tenfold the distance between the source of sound and the observer in the open produces the same reduction in the intensity as is produced by the passage through the birch door. The steel door effects the same reductions as increasing the distance thirty-one fold. A further illustration: Ordinary conversation can be distinctly heard and understood through the light door mentioned above. It can be faintly heard but not understood through two such doors acoustically separated from each other. If it be assumed that the reduction in intensity in passing through the second door is equal to that in passing through the first (an assumption which can be made only with certain important qualifications) then we have an idea of the effect upon the audibility of a sound of a reduction to one ten-thousandth of its original intensity.

There are a number of ways in which the relative transmission of the various partitions studied might be represented. For example, the fraction of the sound transmitted might be plotted as ordinate with the pitch of the tone as abscissa. The large difference between different constructions, represented in this way would, however, be misleading to one interested in the reduction of the audibility of the transmitted sound, since the sensation of loudness is proportional not to the intensity of the sound, but more nearly to the logarithm of this quantity. A very considerable difference in the measured intensity is necessary to produce a perceptible difference in the sensation produced on the ear. Thus it has been found that opening a hole 3 in. in diameter in the wall between two adjoining rooms, in one of which was a continuous source of sound, increased the intensity of the sound transmitted to the other by about 20 per cent. Yet the change in loudness made by opening or closing a hole of this size could barely be detected. Thus it appears that while a difference of 20 per cent. in the sound insulating properties of two types of partitions is easily measurable, it is quite negligible in the problem of reducing the audibility of sound transmitted from room to room.

In the accompanying figures the ordinates represent the logarithm of what may be called the reduction factor of the partition in question. The reduction factor for a partition is the ratio of the average intensity in the room in which the sound is produced to its average intensity on the opposite side of the partition and near no sound being transmitted except thro the partition. The logarithm of this ra which is the length of the ordin measures roughly the difference in l ness on the two sides of the doo window in question. Approximately tenth of the unit ordinate represent difference in loudness that is easily ceptible. This method of representa has the advantage of making the parison between the various partition magnitudes that represent the auc sensations with which we are concerne

Resonance Phenomena

The question as to the process by w sound produced in one room is transm through a solid partition, a steel door example, may be briefly considered. conceivable that the impact of the vi ing air particles on one side may be parted to the molecules of the solid, in turn communicated by them to th particles on the other side. Thus a of compression in the air wave would rise to a similar pulse in the solid, an in turn to the air on the other side. theory and experiment indicate th thin partitions transmission by this m is vanishingly small in comparison the actual transmission. Experi shows, on the other hand, that there



I.—PLAN SHOWING ARRANGEMENT OF SOUND AND TEST CHAMBERS.

Architectural Details. 4.—Examples of Trellised Verandahs

FROM COLLETON TERRACE, EXETER.

VILLA IN STOKE DAVAREL, PLYMOUTH. JOHN FOULSTON, ARCHITECT.

Here we have two delightful specimens of the trellised verandah or balcony, a feature that became very popular in domestic architecture at the close of the eighteenth and the beginning of the nineteenth century. The small house shown in the lower view is typical of the minor effusions of the Regency. In scale and decorative treatment it is a replica in miniature of the larger house of the day. The verandah has something of the quality of Korean trellis.

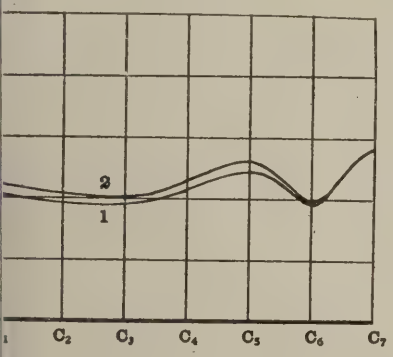
ural yielding of the partition under the ernating pressure of the sound wave, l that the vibration is communicated to air by this flexural vibration of the par- on. By a delicate mechanism the actual tion has been measured and has been nd to correspond very closely to the ration of the air particles in the sound ve, thus confirming the idea that trans- sion occurs very largely by flexural ier than compressional waves in the tition.

heoretical considerations show that a tition of a type approximating a angular uniform plate, clamped at the es, will respond to a series of tones of nite frequencies, in a manner quite parable to that of a stretched string. phenomeon is complicated, however, the fact that two dimensions are in- ed in the response of the plate. In the of the string the different natural uencies of vibration are all multiples single fundamental frequency, the ig vibrating in segments to produce various frequencies to which it will re- id. No such simple relation holds een the natural frequencies of a plate e both its length and breadth enter the phenomenon. Calculation shows, example, that with frequencies less one thousand, a plate of ¼ in. glass e dimension used in the tests has some y-seven different natural modes of ation. Its response to a tone of any of natural frequencies would theo- ally be much greater than to other by frequencies, and its transmission unds of frequencies corresponding to wn natural vibrations would be corre- dingly great. In other words, the omenon of resonance may well be cted to appear prominently in trans- ion measurements. The experiments amply fulfil this expectation, so much so, in fact, that a thorough study of the properties of a single partition should involve measurements using a large number of tones taken at very small intervals of the musical scale, and entail an amount of work that would be prohibitively great. Arbitrarily, therefore, the seven tones an octave apart from C_1 64 to C_7 4,096 vibrations per second have been used, and the reduction factor for each determined. Trials with intermediate tones have shown that, although the intermediate points do not lie on a smooth curve, yet the general trend of the reduction of intensity factor, considered as a function of the pitch of the sound, is represented by the curves given. Moreover, the variations from the smooth curve are, in general, slight in comparison with the relatively large differences which are necessary to give one construction a decided advantage over another as a sound insulator in actual practice.

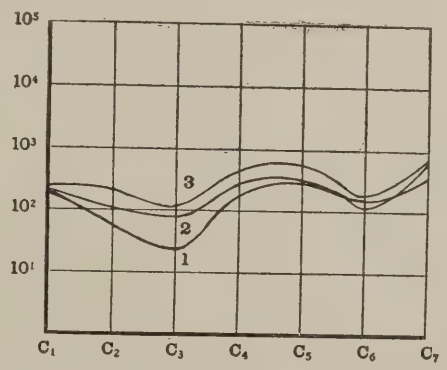
The securing of the data given represents a year's work. A large number of detailed questions have called for experimental study which had to be answered before one could feel any assurance of the reliability of the results of the investigation. As an illustration one may cite the question of the effect of the acoustic properties of the room into which the sound is transmitted upon the values of the apparent transmission as determined by this method.

The average intensity of sound in a room containing a steady source of sound is inversely proportional to the product of the volume and absorption of the room. When sound is entering a room through a closed door or window, the latter may be considered as such a source, and the average intensity in the room will depend not only upon the amount of sound transmitted, but also upon the acoustic properties of the room itself. The experiments showed that an increase in either the volume or the absorbing power of the receiving chamber did effect a decrease in the average intensity of the transmitted sound measured at a number of different points in the room. If, however, the observations are confined to positions near the transmitting wall, the effect of changing the amount of absorbing material in the receiving room is negligible, and a large change in the volume produces only a small change in the intensity thus measured. The curves in figure 2 illustrate this effect. Curve 1 gives the logarithms of the reduction factor for tones of the frequencies shown. Curve 2 represents similar conditions, except that the volume of the receiving chamber is increased from 104 cu. ft. to 413 cu. ft. by the opening of a door arranged for the purpose. Further increase of volume produced no further appreciable effect. The point to be emphasised is that the apparent transmission of sound from room to room is in some degree at least a matter of the acoustic properties of the room into which the sound is transmitted, as well as of the separating walls. Experience shows that an appreciable reduction of noise in a room, transmitted from outside sources, may be secured by proper acoustical treatment of the interior of the room itself. In the results given hereafter the receiving chamber has been kept acoustically constant, with a volume of 413 cu. ft., the walls, floor, and ceiling being of hard brick, cement, and hard plaster.

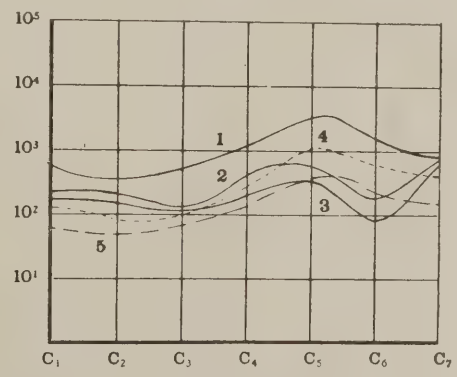
The units tested were of uniform dimensions, 79 in. by 31 in. The doors were set tight in a heavy frame of yellow pine, all cracks being carefully sealed with putty. The effective area transmitting sound was



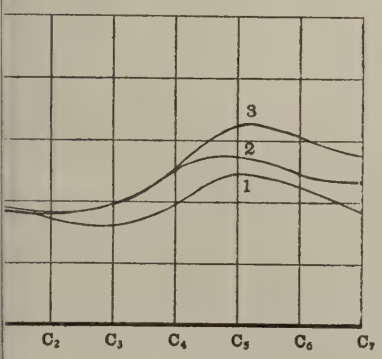
urve 1.—Reduction of intensity of sound itted into a small room. Curve 2.—Reduc- intensity of sound transmitted into a larger room.



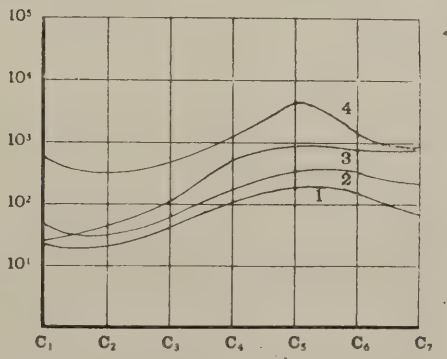
3. Curve 1.—Reduction produced by triplex glass. Curve 2.—By $\frac{3}{16}$-in. plate. Curve 3.—By ¼-in. plate.



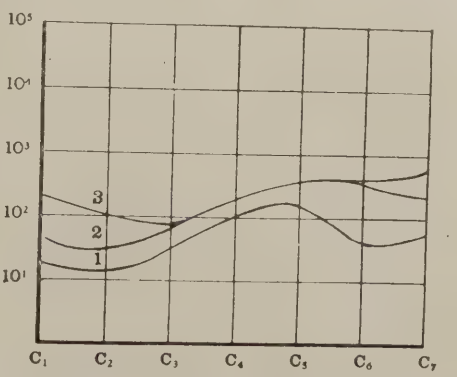
4. Curve 1.—Reduction produced by door of ¼-in. steel. Curve 2.—By ¼-in. plate glass with cross bracing. Curve 3.—By ¼-in. plate without cross bracing. Curve 4.—By $\frac{3}{16}$-in. small leaded panes. Curve 5.—By ⅛-in. panes 10-in. by 19-in.



ve 1.—Reduction produced by single glazed $\frac{3}{16}$-in. plate. Curve 2.—By double glazed with panes set in putty. Curve 3.—By ble glazed window, panes set in felt.



6. Curve 1.—Reduction produced by four-panel door of light birch veneer. Curve 2.—By solid oak 1¾-in. thick. Curve 3.—By double wall "ice box" door. Curve 4.—By door of ¼-in. steel.



7. Curve 1.—Reduction produced by 1¾-in. solid oak door as ordinarily hung. Curve 2.—By the same door well seasoned and sealed air tight. Curve 3.—By same door swollen with dampness.

the same in all cases. Tests have been made upon some twelve different constructions, the numerical values of the reduction factor of which can be taken from the curves. The ordinate for any frequency, as has been stated, is the logarithm (base 10) of the reduction factor. The magnitude of the ordinate is a measure of the insulating property of the door or window in question. The fraction of the sound transmitted is the reciprocal of the number whose logarithm is the length of the ordinate.

Windows

The transmission by a window depends upon the quality and thickness of the glass, and upon the mode of setting in the sash. In Figure 3 the latter factor is the same for all three curves. Four panes, each 15 in. by 39 in., were set in the sash described. Curve 1 is for a specially prepared three-ply material, consisting of two sheets of 1-16 in. window glass, sealed together with an intermediate sheet of celluloid, the whole forming a 3-16 in. pane of approximately the same mass as ordinary plate. Curve 2 is for 3-16 in. plate glass, and curve 3 is for ¼ in. plate. The increase of insulating power of the heavier glass is clearly indicated. The increased reduction in substituting ¼ in. for 3-16 in. glass in telephone booths, for example, would on the average be that secured by increasing the distance from the source of sound in the ratio of 14 to 10. The lower reduction affected by the triplex glass is of interest. It is known that under certain conditions discontinuities in stiffness and density increase the insulating power of partitions. In the present instance, however, the decrease in rigidity occasioned by introducing the celluloid probably more than offsets any possible advantage of the discontinuities in the physical properties, which confirms the notion that flexural vibration is the important factor in transmission of sound by thin partitions.

The five curves in Figure 4 are for decidedly different constructions, but a comparison made in connection with the type of construction in each case proves significant. Taken in order, curve 1 is for a solid steel door, ¼ in. thick, filling the doorway described. Curve 2 is for the four-pane window of ¼ in. plate glass described above, curve 3 is for a single pane window of ¼ in. plate glass, 79 in. by 31 in. Curve 4 is for a window with diamond-shaped panes, 3-16 in. thick, leased in each pane, having an area of 16 sq. in. Curve 5 is for a twelve pane window of light construction of ⅛ in. glass, the panes being 10 in. by 19 in. For the lower tones the reductions of intensity by the different partitions are in the same order as masses of the various partitions. That is, the more massive constructions produce the greater reduction in intensity for the lower tones. This order does not hold over the entire range of frequencies, however. For the higher tone the stiffness of the construction seems to be the more important factor. Inspection shows that curves 1, 4, and 5 have the same shape. Apparently this is to be accounted for by the added stiffness afforded the leaded pane and the twelve-paned windows by the cross bracing of the sash. It appears that the well-braced lighter glass constructions of 4 and 5 may be as effective in reducing the transmitted intensity of the higher notes as is heavier material used in larger units. The transmission from the form of curve given by the more flexible single pane to that of the rigid steel is shown by curve 2 for the four-paned window.

The effectiveness of a so-called "dead-air space" is often mentioned in connection with sound insulation. The curves of Figure 5 illustrate well a condition that must always be met if such a space is to produce the desired results, namely, that the "dead-air space" must not be bridged by any solid connection, even at the boundaries; curve 1 represents the reduction produced by a single glazed two-pane window, each pane being 31 in. by 39 in., and slightly less than 3-16 in. thick. Curve 2 is for the same window double glazed, that is, with glass set "on both sides of the sash." The separation between the two panes was about 1 in. As appears from the curves, the sound insulation afforded by the two thicknesses of glass does not at all approach what would be expected upon the assumption that the second thickness produced a reduction in intensity comparable to that produced by the first. It is apparent that the vibration of the first pane is transmitted directly to the second through the sash and that the air space is quite ineffective. Curve 3 shows the results of an attempt to insulate the two panes by setting the second one in ½ in. saddler's felt rather than in putty. For the lower frequencies it appears that the felt is practically without effect, but that it does produce an improvement in the reduction of intensity for the higher notes. Further experiments on this point are in progress.

Doors

A large number of tests on doors of various constructions have been made, detailed account of which may be omitted from present consideration. The results of four widely different types are presented in Figure 6. Curve 1 is for a light, four-panelled door of birch veneer. Curve 2 is for a heavy solid oak door, well seasoned, 1¾ in. thick. Curve 3 is a heavy double-walled door 4 in. thick, of yellow pine sheathing, filled with heat insulating material of the type used in refrigerating and cold storage plants; while curve 4 is for the heavy steel door referred to above. The marked superiority in insulating power of the steel over the heavy "ice-box" door was scarcely to be expected in view of the generally accepted notions of the conditions for sound insulation. It was found that through the latter it is possible to hear easily and to understand with slight difficulty speech of conversational loudness. Through two such doors on opposite sides of a small vestibule it is possible to hear and understand very loud speech. The slight advantage of this type over the less massive solid oak door is also of interest.

How important a factor the state of seasoning of a wooden partition may be is shown by curves 2 and 3 of Figure 7. Curve 3 represents the reduction produced by the oak door described, while somewhat damp from having been stored in a poorly ventilated room for several months. This was one of the first partitions tested. After having been kept in a dry room for a period of six months it was tested a second time, simply with a view to checking the earlier measurements. Curve 2 presents the results of this second test. The marked difference between the two tests placed the reliability of the method in considerable doubt, until a repetition of the early tests made on glass windows gave results in excellent agreement with those originally obtained, indicating that there had been a change in the properties of the wood through drying. The increased transmission for the extremely high and low tones of the dry over the damp door sugge the more nearly uniform response to t whole range of tones of the well-season old violin or 'cello, as compared with t "green instrument" of recent make.

In the tests described all precauti were taken to prevent the transmission sound through cracks or openings of a kind. In practice, doors and windows not closed air-tight. The theoretical p blem of the passage of sound through opening is far from simple, and the pr tical problem calls for an extensive exp mental research. For the present comparison of the reduction of inten produced by a door sealed "air-tig into its casement, and that of the sa door hung upon hinges must suff Curve 1 of Figure 7 is for the solid door, hung upon hinges, and set so a open and close freely. The very ma decrease in its effectiveness in shutting sound is shown by comparison with cu 2. The experiment does not permit u decide how much of this decreased e tiveness is due to the passage of so through the crevices, and how much is to the indifferent mode of supporting door. Other experiments on this p have shown, however, that the trans sion of sound through long, narrow cra is surprisingly large.

In the foregoing enough has been sented to indicate the limitations advantages of ordinary door and wi construction in the way of sound in tion. The aim has been not so muc develop means for preventing compl the passage of sound from room to as to secure reliable quantitative da the transmission through partition ordinary construction. Such a study s several useful purposes. The metho securing the greatest degree of s insulation under the conditions of cor practice become apparent. Some not the relative importance of the variou tors that together determine the deg sound transmission is arrived at, and sequently a clearer idea of the direct which improvement lies. Finally, monly accepted ideas are submitted test of actual experiment. Thu frequently expressed opinion that heat insulation and good sound insu are concomitant conditions is scarcel ported by the investigation thus far.

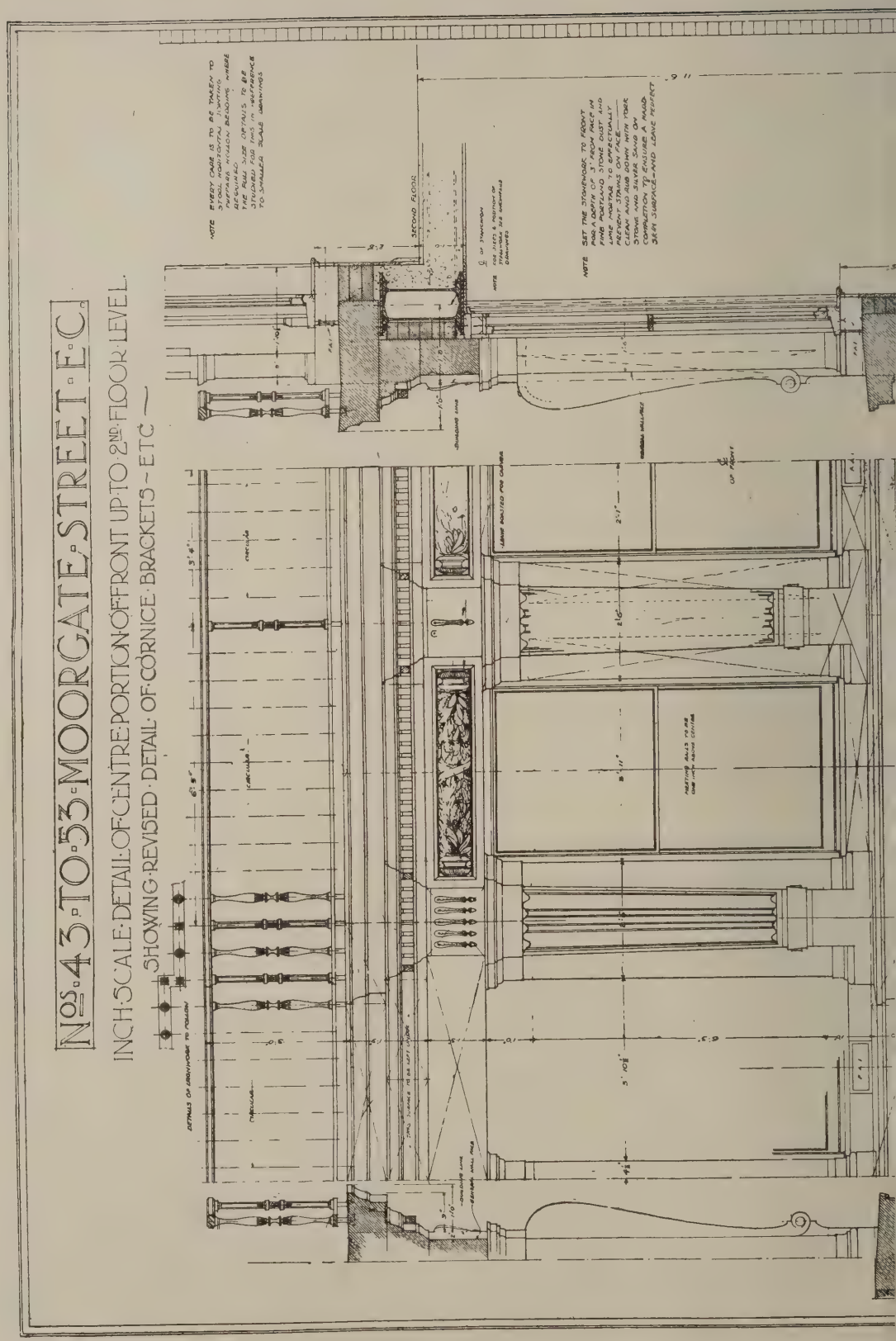
Danish Furniture F

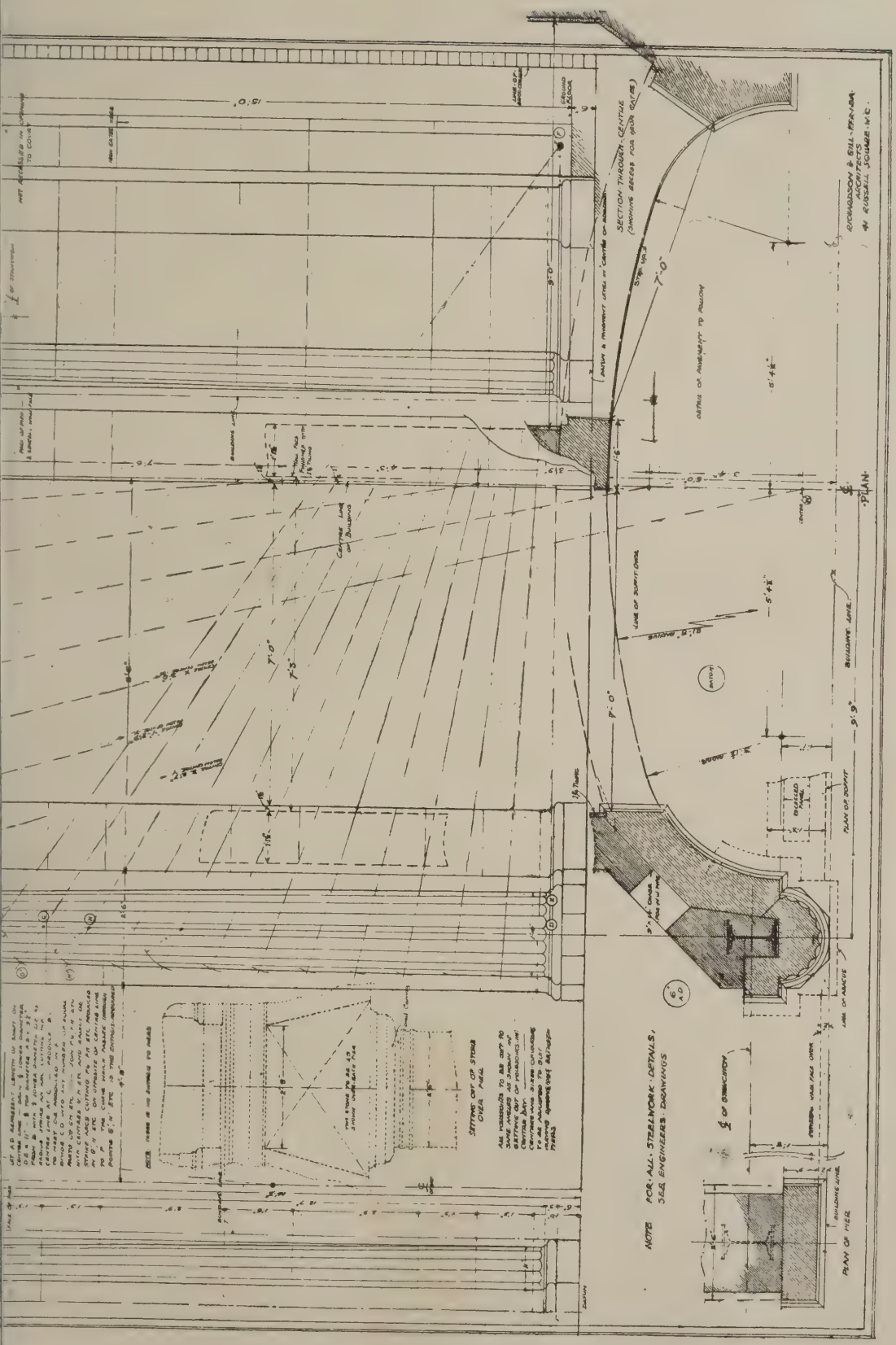
Under the auspices of the Danis Organisation, on which the Gover the Merchants' Guild, and the Chan Manufacturers are represented, a fu fair will be held at Fredericia fror tember 5 to September 15, at the in of the Association of Danish Carpenters, which includes a number of Danish cabinet-makers high level of proficiency attain Danish workers in furniture-making to centuries of successfully applie rience, not only in the technical b in the artistic domain of the art. the war a considerable amount of fu of Danish make was shipped abroa export trade was continued an extended during the period of ho with the result that a number of ne shops have lately been establish addition to complete articles of fu the fair will comprise exhibits of c materials, paints, varnishes, work, wood carving, upholster machines and instruments for wo wood.

Architects' Working Drawings. 14.—New Premises in Moorgate Street, London, E.C.

Detail of Lower Stories

Richardson and Gill, FF.R.I.B.A., Architects





This detail represents the middle bay of the ground- and first-floor stories of a new building which is now being completed in Moorgate Street. Owing to a certain restriction of the site, it was not possible to place the principal entrance on the centre line. Symmetry, however, has been secured by devising a curved recess, of which the entrance is made to form the right-hand half.

Building Labour and the Government

Sir Robert Horne on the Conference

THE following official report has been issued of the conference between the Cabinet Committee and the Resettlement Committee of the Joint Industrial Council of the Building Trades which took place at the Board of Trade offices on August 17.

The Government proposals under discussion were, briefly:—

1. That the numbers of skilled workmen in the trade should be augmented (*a*) by the grading up of unskilled labourers, (*b*) by the admission of more apprentices, including adult apprentices, and (*c*) by the admission of ex-service men as learners.

2. That a system of payment by results, accompanied by special safeguards for the workmen, should be adopted.

3. That overtime should be permitted on housing schemes.

4. That in return a guarantee should be given to operatives engaged on housing schemes against entire loss of wages through bad weather.

The Resettlement Committee agreed that certain sections of the industry require immediate augmentation, and stated that they were alive to the need for an increased output and were prepared to do everything possible to obtain that end, but they were not prepared to accept the methods of augmentation suggested by the Government, and they definitely rejected the proposals for a system of payment by results, and for up-grading. They made counter-proposals for augmenting the supply of labour by the introduction of adult apprentices. They accepted in principle the Cabinet proposals in regard to overtime subject to adequate safeguards. They made suggestions in regard to the distribution of contracts, and pledged the industry to support the Government in preventing unfair competition through the offer of special inducements designed to attract building labour to the detriment of housing schemes. The Resettlement Committee are considering proposals for indemnifying operatives against loss of time through stress of weather, and pending the adoption of those proposals they agreed that the Government might at once guarantee such indemnification on housing schemes.

Sir Robert Horne's Views

In summing-up the discussion Sir Robert Horne said:—

I am very conscious of the difficulties which confront the leaders of the building trade unions when they are required to ask their constituents to renounce practices which have grown up over a period of years and are now surrounded by many prejudices. We were hopeful that on the terms which the Government proposed it would be clearly seen that none of the proposals which were made could be hostile or inimical to the interests of the operatives. We tried to make it plain by safeguards that we should ask nothing which the employees had not a share in deciding, and that at every stage their own representatives should be the guardians, and the effective guardians, of their interests. We offered, on the one side, to establish a principle which we believed was very dear to the hearts of the building operatives. We recognised that they had for some time felt that the time which they had lost owing to bad weather was something which should not be entirely cut out of their working week, and we proposed that that condition of things, which gives rise to complaint, should be, at least to some extent, remedied. But we made this offer on the one side in return for what we asked on the other. I made it perfectly clear, I think, at our last meeting, that this was not a concession made by itself entirely apart from what would be asked from the operatives on the other side. The two things with which we were chiefly concerned were, the possibility of obtaining a much larger number of operatives by up-grading and other methods, and the obtaining of a larger output by giving greater inducements for that output.

Labour's Attitude

It appears to me to-day, as a result of our conversation, that you are not prepared yet to concede, except in a very small degree, the counterpart which was to bring the Government's offer into operation. I hope I am not in any way representing your point of view in too narrow a way. As I conceive, what you propose to recommend to your constituents is really that the number of apprentices in your various organisations should be brought up to what is recognised as an appropriate number. I do not dispute for a moment that that means an increase in the present establishment of the building trades, because it has been made perfectly plain that the number of apprentices to-day is much less than it used to be in the trade, and certainly much less than the rules of your various societies allow. Accordingly, there would be a certain increased number of operatives in the shape of apprentices. You also agree that these apprentices should be taken on at later ages than have ordinarily been recognised. I think the age up to which you said you would be willing to have apprentices is twenty-six years. Do not regard me as underestimating the value of that proposal. It will give some help in the present situation, but I do not think it will give a great deal. It certainly is not anything like enough to meet the very great difficulty of the present situation. We have to build in the few months ahead of us a very much larger number of houses than have ever been built in this country in a similar time before.

I would remind you that the numbers of people in the building trade to-day are less, not merely than they were twenty years ago, but much less than they were in 1914, when there was far less work in the country to be done. Therefore, it is plain that merely to bring up the number of apprentices, who ordinarily only repair the wastage of the trade, is not going to solve our problem at all. It is not even going to bring you up to the number of people you had in 1914, or anything like it. Such a proposal cannot represent anything more than a beginning in the task which confronts us. I appreciate very much what Mr. Wilson said about the necessity of making a beginning, accustoming the minds of people to the necessity of the situation, and showing them by practical experience that even when you have accomplished this beginning you have not nearly solved the problem. I appreciate entirely the point of view from which these observations are made, and, believe me, if we had time in front of us, if we were starting upon a scheme which the public had years to complete, I should assent at once without any hesitation to the proposal which has been made. But the crucial fact is that to-day there are great masses of people clamouring for housing accommodation, and cannot get it. That is the situation which the Government has to meet, and, as Dr. Addison points out to me, the shortage of labour even upon the houses which he has in hand to-day is very great, apart altogether from the houses which are under contract, and apart from the number of houses which we have to build if the needs of the people are to be satisfied.

We have had especially in mind, in the suggestion we have made to you, that there are a large number of people who have fought the battles of this country and who to-day are without work. Several thousands of these are men who in their time have been bricklayers' labourers. We thought there was a great opportunity, by the system of upgrading which we suggested, to provide these people with the chance of becoming skilled men in their trade, and we thought that a special appeal might be made to the building trade to consider the case of these men. I understand up-grading is something to which the building trade is not likely to agree. That I very much regret. I think the public conscience is enormously stirred at the present time with regard to the case of the discharged soldier. Of the number of discharged soldiers who have been builders' labourers, there are about 10,000 at the present time out of work. I am speaking from recollection, but I think that is near the figure.

I think the building trade will have to face a great amount of public concern with regard to this matter when the country is putting up a very large sum of money to provide the thing which the country most urgently needs, and which would provide a very great opportunity of employment. Having said that, I would like to accept the suggestion which Mr. Wilson makes, that we should do nothing to-day of a final character, and that we should have further consultation upon this matter. But it must be rapid and expeditious. We cannot afford to spend time over this. In the light of this discussion, I think we are in a position to formulate anew the proposals which the Government have to make to the building trade, especially having regard to some of the difficulties which you have raised.

Now, gentlemen, these are generally the views which have occurred to me. Dr. Addison, no doubt, will immediately arrange that you shall be supplied with a further communication on behalf of the Government, indicating more completely the proposals we have made; but I hope that the Resettlement Committee will regard itself as in honour bound to meet as soon as necessary for this very urgent purpose, and that no delay shall be allowed to interfere with its deliberations.

In accordance with the agreement arrived at, Dr. Addison is arranging to supply the Resettlement Committee with further proposals.

Construction. 12.—Machine-Shop Extension

By L. P. FRANCIS, M.C.I.

THE completion of an addition to the machine-shop marks an important stage in the large extensions now being carried out at the Witton Engineering Works, near Birmingham, of the General Electric Company, Ltd. The extension, the whole of which is constructed in reinforced concrete, comprises an additional two bays 448 ft. 3 in. long, a total width of 72 ft., and a height from floor to roof of 41 ft. 6 in., with smaller buildings at the side, some of which are used for processes of manufacture, and others for the use of the employees, such as ambulance rooms, lavatories, etc. The main building is at present only one storey high, but the roof is designed for the strength of a floor, so that in the future another roof may be constructed over it to convert the building into a two-storey one. It will be seen from the plan that stairs are provided with space for a lift as a means of access to the future storey.

Throughout the whole length of the two bays tracks are provided to carry electric overhead travelling cranes with a lifting capacity of 25 tons each. The cross section 52 shows the cranes in position and gives some idea of how lofty and spacious the machine-shop really is, a shop in which some of the largest generating sets will be assembled.

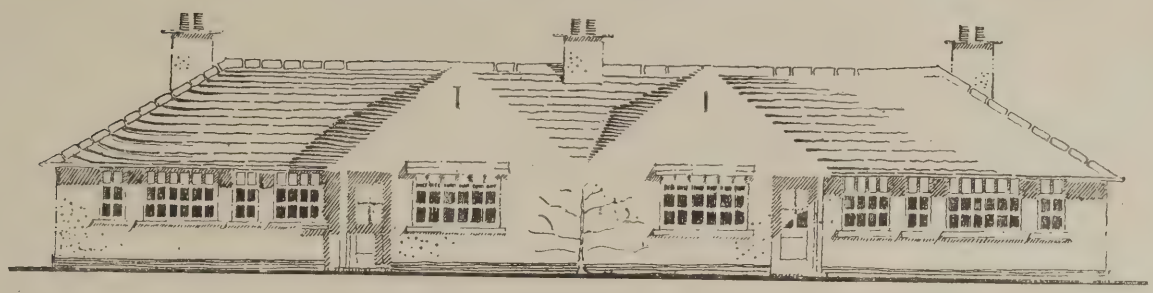
The columns of the main building are spaced at 26 ft. 3 in. centres to correspond with the existing steel stanchions. The centre columns rest on bases 14 ft. long by 6 ft. wide, and have a section of 4 ft. 6 in. by 2 ft. from ground floor to crane beam. The columns are pierced by three holes, the two lower ones being 5 ft. 2 in. long by 2 ft. wide, and the top one 2 ft. by 2 ft.; the former are for economy and effect, and the latter for housing a line of shafting to drive machinery on the floor. Above the crane beams the columns diminish to a section of 2 ft. by 2 ft. The external columns rest on bases 9 ft. long by 6 ft. wide, and have a section of 2 ft. 6 in. by 2 ft. up to crane level and a section of 1 ft. by 3 in. up to roof. The internal faces of all the columns have provision made on them for attaching special slotted inserts to which countershafting or any other mechanical equipment may be fastened by bolts without any cutting into finished concrete.

The crane beams resting on brackets on the columns vary in size according to the loads they have to carry; those in the external bay are 30 in. deep by 15 in. wide, being designed to carry a 25-ton travelling crane, and those in the internal bay are 30 in. deep by 18 in. wide, to carry two 25-ton travelling cranes operating together. The crane beam adjoining the existing shop rests on existing steel stanchions, the top portions of which are encased in concrete as shown on section A.A., the concrete providing a good means

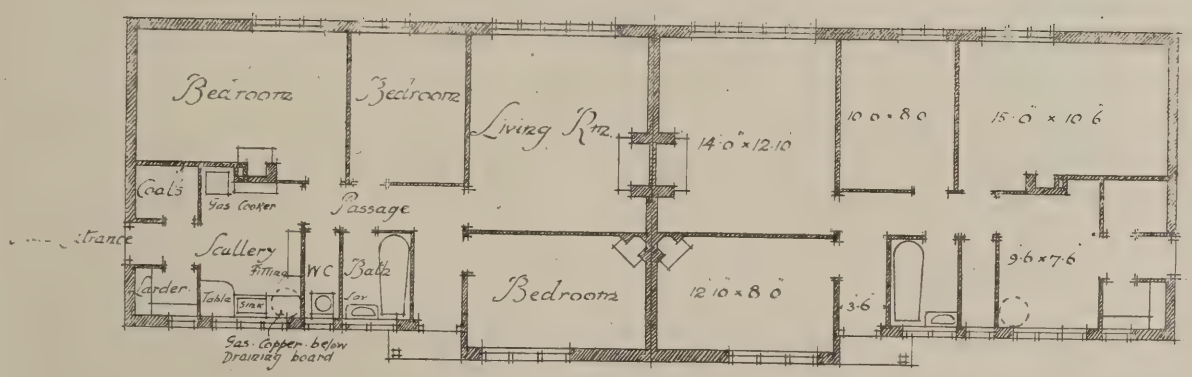
MACHINE-SHOP EXTENSION AT WITTON, NEAR BIRMINGHAM: WEST ELEVATION.
WALLIS, GILBERT, AND PARTNERS, ARCHITECTS.

Modern Domestic Architecture. 16—A Pair of Bungalows at Worcester: Elevations, Sections, and Plans

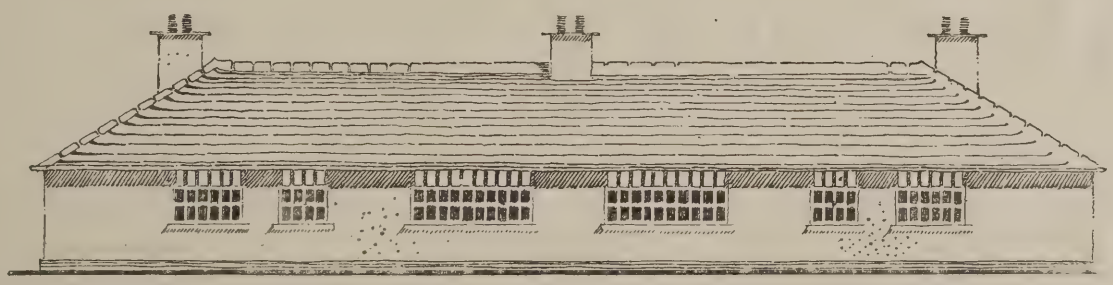
Henry Rowe and Son, Architects



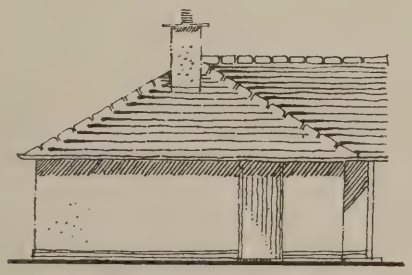
Front Elevation



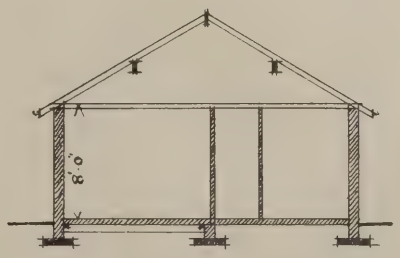
Plan



Back Elevation

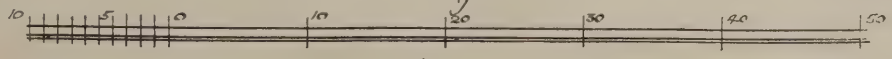


Side Elevation

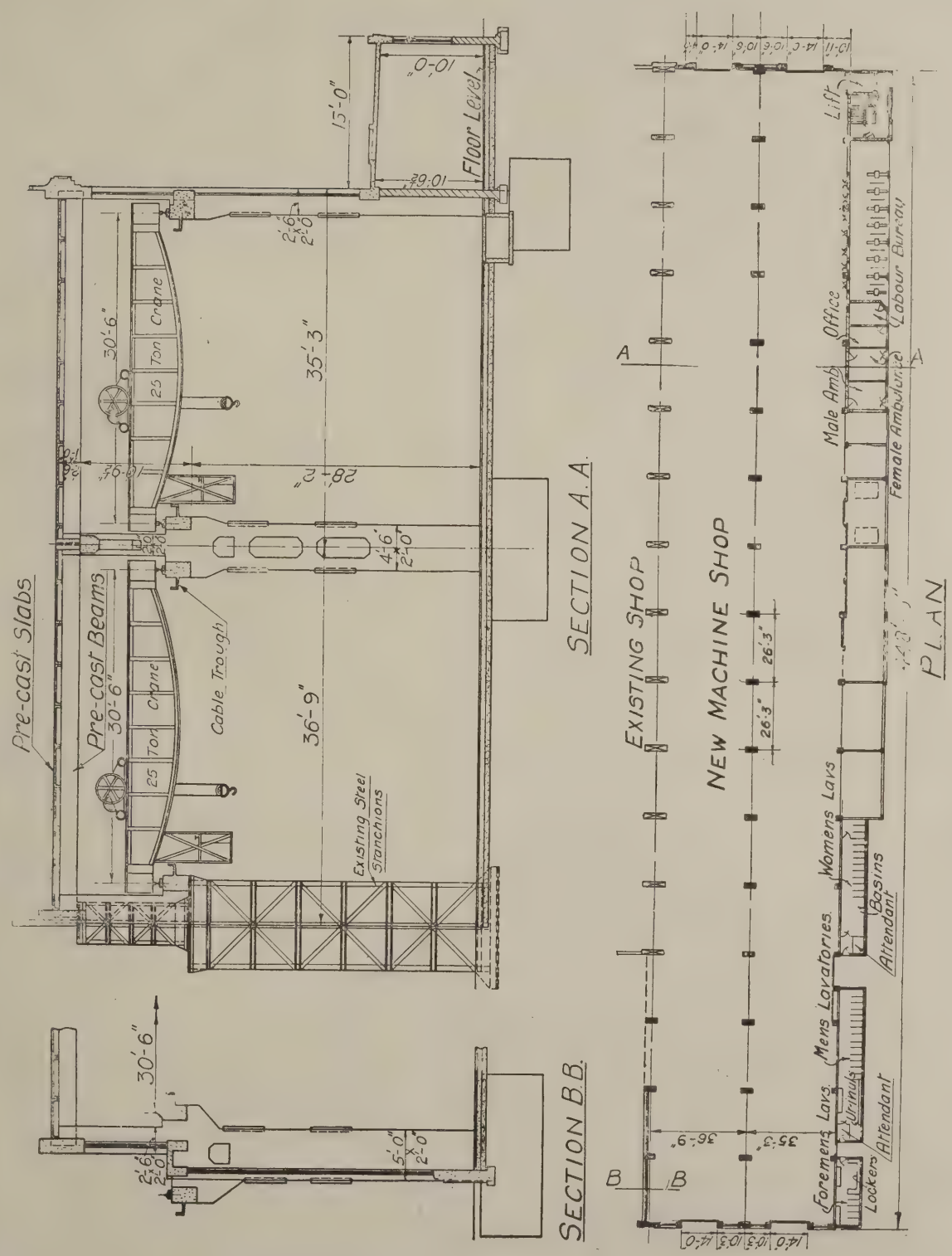


Section

Scale of Feet



This pair of bungalows has been erected for the comparatively economical sum of £1,000. The external walls are of 9 in. brickwork, the roofs being covered with "Poilite" slates. The windows are wood casements, and the ceilings either of patent board or asbestos sheets laid on the ceiling rafters, the latter showing in rooms and being treated with Solignum.



MACHINE-SHOP EXTENSION AT WITTON, NEAR BIRMINGHAM: PLAN AND SECTIONS. WALLIS, GILBERT, AND PARTNERS, ARCHITECTS.

of anchoring the beams by means of reinforcing bars. The travelling cranes run on 56-lb. rails, secured by ⅝-in. coach screws to 10 in. by 4-in. timber bearers, which in turn are fixed to the crane beams by ⅞-in. rag bolts. Concrete troughs were formed on the sides of the crane beams to carry power and lighting cables. The bottom of the trough was cast simultaneously with the beams, and reinforced by bars projecting from them, the sides being formed by attaching Hy-Rib to the reinforcing bars and coating the Hy-Rib with cement plaster, thus eliminating the use of centering.

The construction of the roof, which is designed to carry a future floor load as before described, is an interesting piece of work, inasmuch as it was not cast *in situ* like the columns and crane beams below, but was made in units on the ground, and after the concrete had matured was hoisted into position in the manner of structural steelwork. This method was considered more economical than casting it in position as, owing to the great height of the roof, an enormous amount of propping and staging would have been required to support the false-work while the concrete was being placed. The three lines of main beams shown in section A.A., were cast *in situ*, as the centering for these could readily be carried by the crane beams below. Precast secondary beams spaced at 8 ft. 9 in. centres carry the roof in two spans. These beams, 21 in. deep and 12 in. wide, were designed strong enough to carry their own weight and the slabs that rest upon them. The pre-cast slabs are 8 ft. 1 in. long, 4 ft. wide, and 2½ in. thick, with a beam 9 in. deep on all four edges, and have the appearance of shallow bottomless boxes. They were placed on top of the beams, the edges of the slabs taking a bearing on each side of the beams, leaving a space between the slabs and over the beams 8 in. wide and 9 in. high. This space was afterwards filled with concrete reinforced with Kahn rib bars secured by stirrups projecting from the unit beams for that purpose, thus making the finished beams 30 in. deep, and thereby adding considerably to their strength. This method of construction has proved quite successful in this instance, the hoisting of the units presenting no great difficulties.

The elevations to this building, even in their present incomplete form, have a very pleasing effect. It will be noticed that all available space is devoted to window area, the maximum amount of natural light thus being obtained. A horizontal band of concrete runs around these two elevations at the same level as the crane beams. This serves the dual purpose of concealing the crane beams and effectively breaking up the elevation and relieving the monotonous appearance of a large expanse of very long sashes. The west elevation, being the most important, is somewhat more ornate than the north and the east. The tower-like structure on the left of the picture encloses the staircase and lift, and will be surmounted by a cupola when the second storey is added. The two doorways, surrounded by well-proportioned architraves, all cast in concrete, are striking features of this elevation. The length of the two sashes between the doorways and of the sash in the tower is unbroken in this instance, producing a very pleasing result.

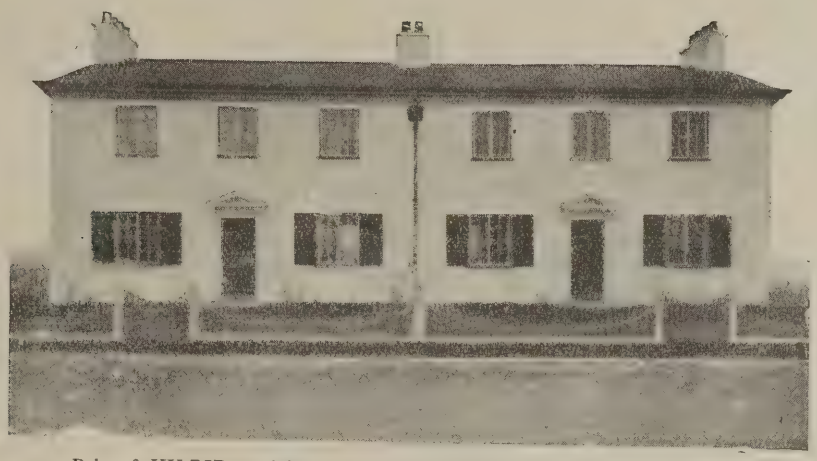
The architects were Messrs. Wallis, Gilbert, and Partners, 29, Roland Gardens, London, S.W., and the reinforced concrete was designed by the Trussed Concrete Steel Co., Ltd., South Kensington, and executed by Messrs. W. J. Whittall and Son, of Birmingham.

The Summer School o Civics

The meeting of the Summer School Civics, held at High Wycombe, Bucl from July 31 to August 14, did not attem to eliminate the studies with which civ is conventionally associated, but broadened their bas's and enriched the with a new method. The courses we established to appeal to three groups students: teachers, public health and oth social workers, and the less specialis body of citizens from other occupatio The formal studies undertaken by regular students were enriched and vivif in two ways. On the one hand, they w related to a series of lectures on rec struction which took place in the eveni throughout the fortnight. This series cluded a survey of the field of reconstr tion, by Mr. Alexander Farquharson study of present-day officialism, by chairman of the Civic Education Leag Mr. Waldegrave; and a description of dustrial reconstruction in the build trades, by Mr. Malcolm Sparkes. second method was the use of the lo community as a convenient exemplif tion of the various economic and so and political processes described in various courses. Each of the excursi which were taken into the surround region—to West Wycombe, to Beac field, to Marlow—were made to exp and understand the regional life f the ground up: from the chalk of South Bucks, with their beechw forests, up to the furniture factories, schools, the multiple shops, and churches, with the attendant dwel houses and allotment gardens. It was part of the course which proved to be most stimulating to a large number of dents who have not yet learned that

MACHINE-SHOP EXTENSION AT WITTON, NEAR BIRMINGHAM: GENERAL VIEW.
WALLACE, GILBERT, AND PARTNERS, ARCHITECTS.

HOW HY-RIB HAS HELPED HOUSING.



Pair of HY-RIB steel-framed concrete houses. Complete in six weeks.

The housing situation is a menace to the nation. Houses *must* be built, thousands of them—and AT ONCE.

The people don't want speeches. They want Houses.

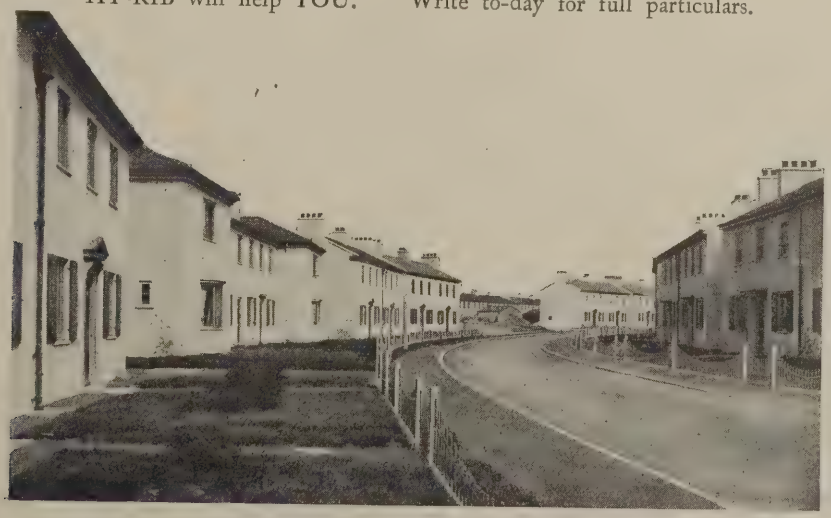
Can they get them? - Yes.
Are they getting them? - Yes.
Then where? (See below.)

A first list of official housing schemes on the "Dorlonco" system wherein "Hy-Rib" is used for construction of walls, floors, roofs, ceilings, etc. :—

BIRMINGHAM.	MIDDLESBROUGH.	LIVERPOOL.
DONCASTER.	WARRINGTON.	MALTBY.
GLOUCESTER.	DERI.	ROSSINGTON.
LEYLAND.	HATFIELD.	CHISLET.
DURHAM.	ASHINGTON.	PONTELAND.
WHARNCLIFFE.	STURRY.	SANDAL.
ACTON BRIDGE.	WALKERGATE.	PENKETH.
BOLTON.	EARSDEN.	KIRK SANDELL.
DORMANSTOWN, REDCAR.	ROTHERHAM.	CASTLEFORD.
GRIMSBY.	WEST BROMWICH.	CHESTERFIELD.

Building is in progress in all these schemes. Many houses are already completed. Hy-Rib house construction is very speedy, and is approved by the Government.

HY-RIB will help YOU. Write to-day for full particulars.



A whole street of HY-RIB houses, many already occupied. Dormanstown Housing Scheme. Architects: Messrs. Adshead, Ramsey & Patrick Abercrombie.

THE TRUSSED CONCRETE STEEL CO., LTD.,

Truscon House, Cranley Gardens, South Kensington, S.W.7.

THE

Cure for Damp Walls

IS

"PROTEX"

(BLACK CARBON EMULSION)

THE application of our **"PROTEX"** to the brick plaster, or other surface produces a pliable film or coating which entirely prevents the passage of any damp or moisture.

"PROTEX" never becomes hard or brittle, neither will it crack nor flake. It is easily applied, being put on cold with an ordinary brush.

"PROTEX" is a tenacious bonding medium, and plaster or cement can be affixed to any wood, metal, or other surface without the aid of any special key.

TRADE

MARK

"PROTEX" gives a perfect damp-proof film, and the plaster can be applied directly to it, without furring or lathing, saving cost of materials and labour, and economizing space.

"PROTEX" can be papered over.

"PROTEX" is supplied in ½, 1 and 2 gallon cans, 5 and 10 gallon drums, and 20 and 40 gallon casks.

Booklet with full particulars from—

GEORGE M. CALLENDER & CO., LTD.

(Dept. PX.) 25, VICTORIA STREET, LONDON, S.W.

Telegrams: "QUARRIABLE, LONDON." Telephone: 4642 VICTORIA.

ocial sciences can be studied by direct bservation. The regional surveys included a walk through the commercial and nancial centre of High Wycombe, the nspection of paper mills and furniture-naking factories, and the examination of arious rudimentary upland villages. The uccess of this experiment in regional urvey, and in the use of a small industrial community, as the centre of a summer chool, is well attested by a vote taken in ne of the classes where the majority of he students favoured the selection of a imilar town for the next meeting, and here by a unanimous vote they rejected he suggestion to choose a seaside town uch as would be especially adapted to recreation and residence.

Correspondence

"Exemplary Street Labels"

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—The note on "Exemplary Street abels," in your issue of August 18, natu-lly appeals to us as potters, and we can-ot resist the temptation to point out that far back as June 26, 1912, you were nd enough to refer to the fact that we ere making stoneware tiles for street mes, "one tile, one letter" being the le. Some may be seen on the London ounty Council dwellings at Millbank ehind the Tate Gallery), at Brixton Hill, orbury, and elsewhere. The letters are ht on a dark ground, this arrangement ving been adopted after trials had been ade of dark upon light.

DOULTON AND CO., LTD.

.I.B.A. and Ex-Service Students

The Council of the R.I.B.A. have mulated a scheme for the provision of considerable number of studentsh ps for benefit of ex-service students who are w taking courses at the various "recog-ed" schools of architecture. These dentships, which will be of the value of a year for three or more years, will be arded, on the recommendation of the ool authorities, to students who are now npleting their first-year course. In the e of students who are taking the ordi-y three years' course for exemption m the R.I.B.A. intermediate examina-n, the studentships will be tenable for remainder of the course. In the case students who are taking a five-year loma course the tenure of the student-ps will be extended to cover the whole iod. Certain conditions as to travelling the purpose of study will be laid down. following studentships, to be termed enry Jarvis Travelling Studentships," e been allocated to the undermen-ed schools: Architectural Association, e; Liverpool University School of hitecture, two; University of London ol of Architecture, two; and Manches-University School of Architecture, gow School of Architecture, Edin-gh College of Art and Heriot Watt Col-, Leeds School of Art, Robert Gordon hnical College, Aberdeen, and the hnical College, Cardiff, one student-each.

Enquiries Answered

The Temple of Theseus, Athens.

C. H. I., Ealing, writes: "Would you please inform me what is the exact distance, in modules, between the columns, in the Temple of Theseus, Athens? The intercolumniation of the two columns at the extremities of the peristyle is, of course, narrower than that of the others. What is the width of the end metopes, and are they the same size as all the others along the frieze?"

—The Temple of Theseus has a hexastyle façade. The angle columns measure 3 ft. 4.85 in., and all the intermediate columns measure 3 ft. 3.4 in. diameter. The inter-columns measure from the angle towards the centre 4 ft. 6.35 in., 5 ft. 4.05 in., and 5 ft. 3.95 in. respectively. These dimensions are similar on both sides of the centre. The dimensions are here given in feet, as the columns vary in diameter, so that the figures representing the spacing of the columns will vary according to which diameter you take to give the module. The angle triglyph measures 1 ft. 8.3 in. across, and the first metope from the angle measures 2 ft. 6.475 in. across. The intermediate triglyphs are practically of the same dimensions as the angle triglyph, and the triglyphs are spaced centrally over the columns, thus fixing the size of the intermediate metopes.

Rough Cast.

R. F., Selsey, writes: "I am about to apply rough cast on a cottage constructed of hollow-brick walls, and should like to know what are the best materials and proportions to use to obtain a white finish."

—Walls constructed with a single thickness of hollow brick blocks would be better coated with Portland cement rough cast than with the usual lime rough cast, although the latter offers considerable resistance to damp if well done. A rough cast made of 2 of Portland cement, 1 of gravel, 2 of white limestone dust, and 1-10th powdered whiting or ground chalk should be found suitable. There is no necessity to apply two coats if the hollow blocks are keyed or grooved on the surface or the joints are raked out, and the surface is clean and thoroughly wetted.

Weekly Housing Report

New housing schemes submitted to the Ministry during the week ended August 14 numbered 61, bringing the total number of schemes submitted to 10,935, comprising about 74,000 acres. The schemes approved now number 7,619, and comprise about 53,000 acres.

Fifty-eight lay-out schemes were submitted, and 52 approved during the week, bringing the total number of lay-outs submitted to 5,632, and the number approved to 4,980.

House plans representing 1,923 houses were submitted, and plans for 2,581 houses approved. The total number of houses represented in all the plans now submitted is 249,489, and in the plans approved 233,533.

During the week tenders were submitted for 3,736 houses. Tenders for 1,546 were approved, bringing the total number of houses in tenders submitted to 157,973, and in tenders approved to 138,669. Contracts have been signed for 84,392 houses.

The number of houses completed (with the exception in some cases of painting) at August 1 was 4,394. Flats numbering 347 have been provided in London by the conversion of large houses. The number of houses in course of erection, not completed, was 27,022.

At the end of July 57 per cent. of the skilled labour required for housing schemes was available. The number of men employed was 18,917; the number needed was 33,380, leaving a deficiency of 14,463.

Liverpool Architectural Society

The annual general meeting of the above society will be held on Tuesday, August 31, 1920, at two o'clock p.m., at the Society's rooms, 13, Harrington Street. Business:

To read the minutes of the general meeting, held on January 21, 1920; to elect as an Associate, Samuel Armstrong Hurst Mackay, 12, Crosfield Street, Warrington, proposed by E. P. Hinde, T. F. Shepheard, and Egerton L. Bower; to receive and consider the annual report; to elect officers and council for the ensuing year; to adopt a recommendation by the Council to increase the annual subscription of Fellows to two and a half guineas, and of Associates to one and a half guineas; to transact any other business; to hear the closing address by the President.

Competition News

[For list of competitions open see last week's issue.]

War Memorial Halls, Sheffield.

The Special Committee of Sheffield City Council appointed to deal with the above competition have met to receive the award of the assessors (Sir Aston Webb, P.R.A., and Mr. F. E. P. Edwards, F.R.I.B.A.) and have adopted their recommendations as follows: Design placed first, No. 33, Mr. E. Vincent Harris, F.R.I.B.A., 29, St. James's Square, London; design placed second, No. 23, premium £250, Mr. James B. Fulton, A.R.I.B.A., 153, Amesbury Avenue, Streatham Hill, S.W.2. Design placed third, No. 28, premium £150, Mr. E. B. Webber, 8, New Square, Lincoln's Inn, W.C.2; design placed fourth, No. 38, Premium £100, Mr. Howard H. Thompson, F.R.I.B.A., 8, Market Street, Leicester.

All the designs received will be on public exhibition at the Mappin Art Gallery, Sheffield, for two or three weeks from the beginning of September.

New Club Premises, Barcelona.

Members of the Society of Architects are requested not to take any part in the above-named competition without first ascertaining from the Society that the conditions have been approved.

Publications Received

"Man and His Buildings." By T. S. Atlee, A.R.I.B.A. Price 6s. net. The Swarthmore Press, Ltd., 72, Oxford Street, London, W.1.

"Modern Pig-Feeding in 1917-18-19 and 20." By K. J. J. Mackenzie, M.A., and John Fleming, with a preface by T. B. Wood, C.B.E., M.A., F.R.S. University of Cambridge School of Agriculture and Institute of Animal Nutrition.

The Week's News

(Concluded from page 199)

Housing at Pershore.

Eighty-eight houses are to be erected by the R.D.C.

Slough and Direct Labour.

The Council have decided to erect thirty houses by direct labour.

Renovation of Aberdeen County Court.

Renovations are to be carried out to the Aberdeen County Court buildings at a cost of £1,023.

Dufftown Housing Scheme.

The Scottish Board of Health have consented to the borrowing of £10,500 for the housing scheme.

Housing at Portsmouth.

The T.C. are applying to the Ministry of Health for sanction to raise a loan of £750,000 for housing.

Swanpool Garden Suburb.

One hundred and thirteen houses have been erected on the Swanpool Garden Suburb, near Lincoln, and seventy-nine are practically ready for occupation.

Housing at Sauchie.

Crieff Town Council have resolved to proceed with the erection of twelve houses on vacant ground at Sauchie at a cost of £12,000.

Thornaby.

The Corporation have decided to apply for a loan of £6,590 for the compulsory purchase of the Thornaby-road site, upon which to erect houses.

Houses for East Molesey.

The East and West Molesey U.D.C. have accepted a tender of £27,394 17s. for the erection of twenty-six houses in Hurst Lane, East Molesey.

Housing at Plympton.

Plympton R.D.C. have decided to purchase land at Compton Gifford at a cost of £1,200 for the erection of working-class dwellings.

Housing at Hamilton.

Hamilton Dean of Guild Court have passed plans for the Morris Street section of the Corporation's housing scheme. This section consists of forty-eight dwelling-houses of five different types.

Batley Housing Site.

A plan of the lay-out and plans showing the erection of thirty-six parlour houses on the Wakefield Road site has been sent by the T.C. to the Housing Commissioner for his approval.

New Operating Theatre for Wharfedale.

At the Wharfedale Workhouse, at Otley, foundation stones have been laid for an operating theatre to adjoin the infirmary. The cost of erecting and equipping the building is estimated at £450.

Canadian Technical Schools.

Several additional technical schools are to be built by the School Boards of the various Western cities. The tools and materials required include machine-shop supplies, forge room material, electrical supplies, etc.

Brierley Hill Stack Felled.

The Brierley stack at Brierley Hill has been felled by order of the local Urban Council. Built in 1854, the stack was one of the most familiar landmarks in the district. Originally it was 200 ft. high. It is estimated that the stack contained a quarter of a million bricks, weighing roughly 800 tons. The Council intend having the bricks dressed and used for the foundations of the new houses to be erected in connection with the town's housing scheme.

Housing at Bridgenorth.

The housing scheme proposed to be carried out by the T.C. is as follows: Five blocks of two, non-parlour type, £1,853 per block; eight blocks of three, parlour type, £3,377 per block; thirty-two houses, 10 non-parlour and twenty-two parlour types, £33,811.

Building in Renfrewshire.

Over the districts of Milliken Park, Giffnock, Cardonald, and Clarkston the latest plans include schemes for the erection of three houses, eleven cottages, thirty-two double cottages, and a terrace of seven houses.

Knaresborough Housing Sites.

The R.D.C. have resolved to apply to the Public Works Loan Board for a loan for the purchase of a building site at Killinghall. Sanction has been received for the borrowing of the money for the purchase of the site at Hampsthwaite.

Concrete Houses for Newcastle.

The Housing Committee has obtained the sanction of the City Council to enter into an arrangement for building 100 concrete houses, conditionally on their not costing more per house than similar dwellings of brick now under construction by contract.

New Houses in Leith.

Leith Town Council are to erect 180 houses at Ferry Road and Clark Road, Leith. The proposals include blocks of tenements, villas, and cottages. There will be thirty of the houses with five apartments each, ninety-four of four apartments each, and fifty-six of three apartments each.

Prescot Housing.

The houses being built at Prescot are nearly ready for occupation, and a tender has been accepted for a further forty-two houses. It is intended to proceed with another batch of forty-two houses almost immediately. When these are all completed the scheme will consist of a total of 120 houses.

Associated Scientific and Technical Societies of South Africa.

The movement which has been proceeding actively for some time in Johannesburg has culminated in the formation of a body to be known as the Associated Scientific and Technical Societies of South Africa. The new organisation will bring together eight or ten of the chief technical societies of South Africa into a common institution.

Glasgow Housing Exhibition.

In connection with the forthcoming housing and health exhibition at Glasgow the Committee have decided to hold competitions for artisans. The competition will embrace any novelty in artisan work that appertains to any branch of the building trade, and models of furnishings, furniture, and anything applicable to the house in general.

Rugby's New Houses.

The R.D.C. propose to spend £22,000 on the erection of houses at Wolston; £11,500 for houses at Dunchurch; and £32,500 for houses at Hillmorton. The Council are also receiving loans from Public Works Loan Board for £32,600 the erection of houses at Bilton and V loughby, as well as £2,300 for the p chase of land for houses at Dunchur Hillmorton, and Wolston.

Houses for Leyton.

The first sod has been turned in conn tion with the Leyton housing scheme. a beginning 142 houses are to be buil a cost of about £1,100 each. They each have a parlour, living room, and s lery on the ground floor, and three b rooms and a bathroom on the upper fl The houses will have plain fronts in br and rough-cast.

Edinburgh War Memorial.

A war memorial is to be erected George Watson's College, Edinburgh a cost of £3,000. The design selected that of Mr. J. A. Carfrae, architect, E burgh, and the erection of the memo will be proceeded with immediately. memorial fund now amounts to £10,000, and the balance is being app towards the relief of widows and depend of old boys who fell in the war.

Feckenham Housing.

A scheme is being pressed forward the immediate erection of thirty-e houses in the district. The villages which the proposed houses are to erected are Astwood Bank (twenty-fo Cookhill (four), Inkberrow (four), Crabb's Cross (six). Land for buil sites has been purchased at Astw Bank and Cookhill, and sites for Cra Cross and Inkberrow are being negotia

New Promenades for Margate.

By an agreement with the Governo the Bridewell and Bethlem Hospitals, own the land between Margate and W gate, the town will extend westward u the borders of the sister town. Margate Corporation have agreed to tinue the Royal Promenade to the e of this land in a nearly direct line to V gate, and also to take over the fores from the borough boundary to the V gate boundary. The land is to developed by the local authorities, maintained as a long stretch of plea grounds, and a pavilion will be built site to be decided upon. The scheme provides for an under-cliff prome within a period of ten years.

Hull Exhibition of R.I.B.A. Drawi

An exhibition of R.I.B.A. prize ings, arranged by the York and East Y shire Architectural Society, is now h held at Hull. The exhibition, which many finely-conceived and executed v of design, colour, and draughtsman includes the measured drawings o Paul's Cathedral by Mr. Arthur F Paley, awarded the R.I.B.A. silver m and 25 guineas; design for a bridge a river, with covered footway, by A. G. Shoosmith, Soane Medallion £150; design for a loggia, with a li over, by Mr. P. H. Meldrum, Tate and £45; studies in colour by Mr. Quarmby, Owen Jones Studentship £150; and a design for a water tow Mr. F. H. Heaven, which was awarde Grissell gold medal and £10 10s. T the first occasion on which such an bition has been held in the district.

RUBEROID

Roofing

RUBEROID combines all the essential requirements of a flat roofing. Low in prime cost, it is durable, unaffected by heat or cold, yet flexible, and will not crack or run. Is proof against vibration, and withstands foot traffic. Light in weight yet substantial. Needs no metal connections, and is equally efficient whether laid on boards or concrete, on flat, sloped or curved roofs. Although the least expensive it has proved during the past 29 years to be the most reliable form of flat roofing.

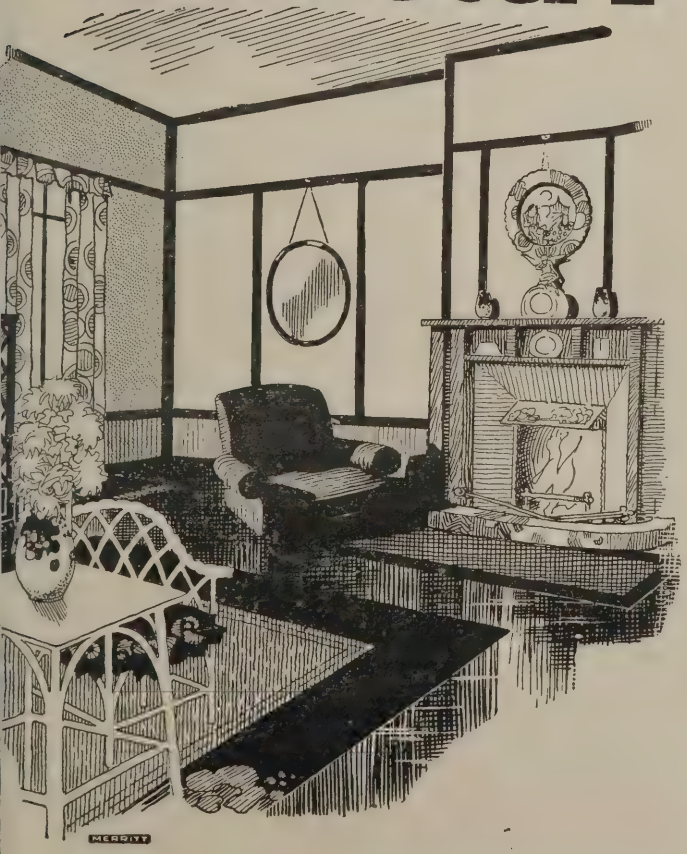
Our most convincing testimony is the buildings we have roofed. The premises for Messrs. Sutton & Co., Cork, illustrated hereunder is but one of the thousands of buildings covered with Ruberoid. Our Catalogue, illustrated with other examples of our work and containing full information, will be sent on request.

The Ruberoid Co., Ltd., 1, Waterloo House, 81-83, Knightrider St., E.C.4

Branches :—
Newcastle.
Birmingham.

Branches :—
Leith.
Dublin.

Venesta Ply-Panels



For quick, dry, and reliable construction there is no form of wall and ceiling decoration to compare with Venesta Ply-Panels, and the result when completed is far superior to anything possible with lath and plaster walls.

Venesta Ply-Panels are comprised only of selected and flawless "plys," waterproof and unshrinkable, and they will last as long as the house in which they are fixed.

They are non-absorbent, sound resisting and fire resisting, and their delightful surface is admirable for taking enamel, distemper or polish without any preliminary preparation.

The panels are quite easy to fix either to brickwork or over old plaster walls, and the joints when covered with the strips or moulding form the panel design.

Venesta Period Panelling

Where a more elaborate decoration is desired such as Dining Rooms, Billiard Rooms, Libraries, and Board Rooms, etc., Venesta Period Panelling is the ideal material.

It gives an air of distinction wherever it is installed and its value increases with age.

We design, supply and fix to suit any Room in Tudor, Jacobean, or other period panelling in various woods.

Write for illustrated Booklet of Ply-Panels, Period Panelling and Parquet Flooring.

Venesta Ltd
Plywood Manufacturers
1. Great Tower Street, London, E.C.3

CONTENTS.

Edited by PROFESSOR A. E. RICHARDSON, F.R.I.B.A.

Notes and Comments: The Labour Troubles; The Unification Committee; London University Site, 225; Proposed Statue of Lord Fisher; Sanitation of Theatres; London School Buildings; A "Mayflower" Relic 226

Kenwood or Bloomsbury? By Major H. Barnes, M.P., F.R.I.B.A. ... 227

The Week's News 228, 250

Architectural Causerie. East of the Tower. By Aero 229

Modern Practice in School Design ... 230

Stone for Restoring Westminster Abbey 237

"Piecework" and "Payment by Results" 238

Progress of Private House Building 238

Riga Trade Fair 238

Sheffield War Memorial Halls Competition 243

Weekly Housing Report 247

The L.C.C. and the Building Trade 248

Trade and Craft: Electric Fires and Vacuum Cleaners; Anti-Hydro Concrete Floors 248

Competitions Open 249

Enquiries Answered: Interior Decoration in 1700; Roman Brickwork 249

Current Prices of Materials ... ... xvii.

Complete List of Contracts Open ... xx., xxii.

ILLUSTRATIONS:

Richard Phené Spiers 223

Air Views of Buildings. 2.—The City of London, with St. Paul's 224

Ground and First Floor Plans of Portland Public Auditorium, Portland, Oregon, U.S.A. ... 230

Modern American Architecture. 7.—Portland Public Auditorium, Portland, Oregon, U.S.A. J. H. Freedlander and A. D. Seymour, Jnr., Associate Architects 231

Proposed Elementary School for the London County Council on the Roehampton Estate ... 233

London County Council Secondary School for Girls, Laura Place, Clapton 234

Proposed New Secondary Schools for Boys, Ducane Road, Hammersmith 23

Current Architecture. 39.—War Memorial Halls Competition, Sheffield: First Premiated Design. E. Vincent Harris, F.R.I.B.A., Architect 2

Architects' Working Drawings. 15.—Portland Public Auditorium, Portland, Oregon, U.S.A. Transverse Section. J. H. Freedlander and A. D. Seymour, Jnr., Associate Architects 240, 2

Sheffield War Memorial Halls Competition. First Premiated Design Plans, 243; Site Plan and Detail, 244; Sections and Elevations ... ...

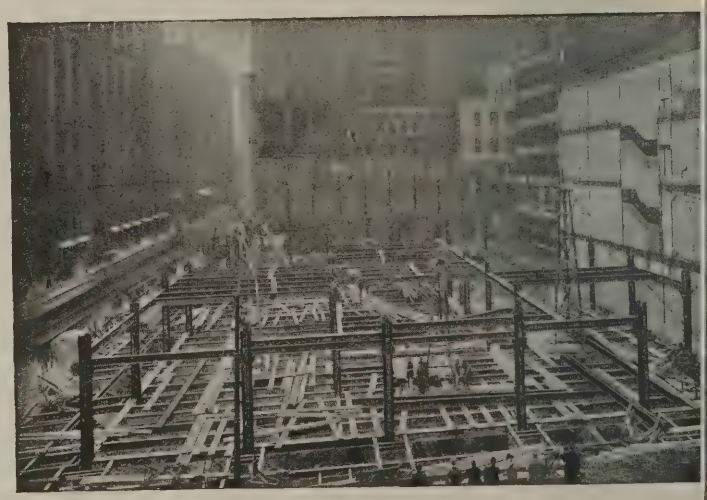
Current Architecture. 40.—War Memorial Halls Competition, Sheffield: Detail of First Premiated Design. E. Vincent Harris, F.R.I.B.A., Architect ... ...

EXPERIENCE

EXPERIENCE is just knowing things. We have been long enough in the constructional trade to know we have the right material to offer you — promptly. With the added intelligent anticipation of your wants the War has taught us, we stand ready for your enquiries. Experience of our service has pleased so many.

STOCKS OF
British Standard Sections in Joists, Channels, Angles, Tees, Flats, etc.

DAWNAY DEFINITIONS—5.



ARCHIBALD D. DAWNAY & SONS, Ltd.

Telephones: Battersea, 1094 (3 lines).

Steelworks Road, Battersea, S.W.11.

Telegrams: "Dawnay, Battsquare London."

And at East Moors, Cardiff.

Telephone: Cardiff, 2557.

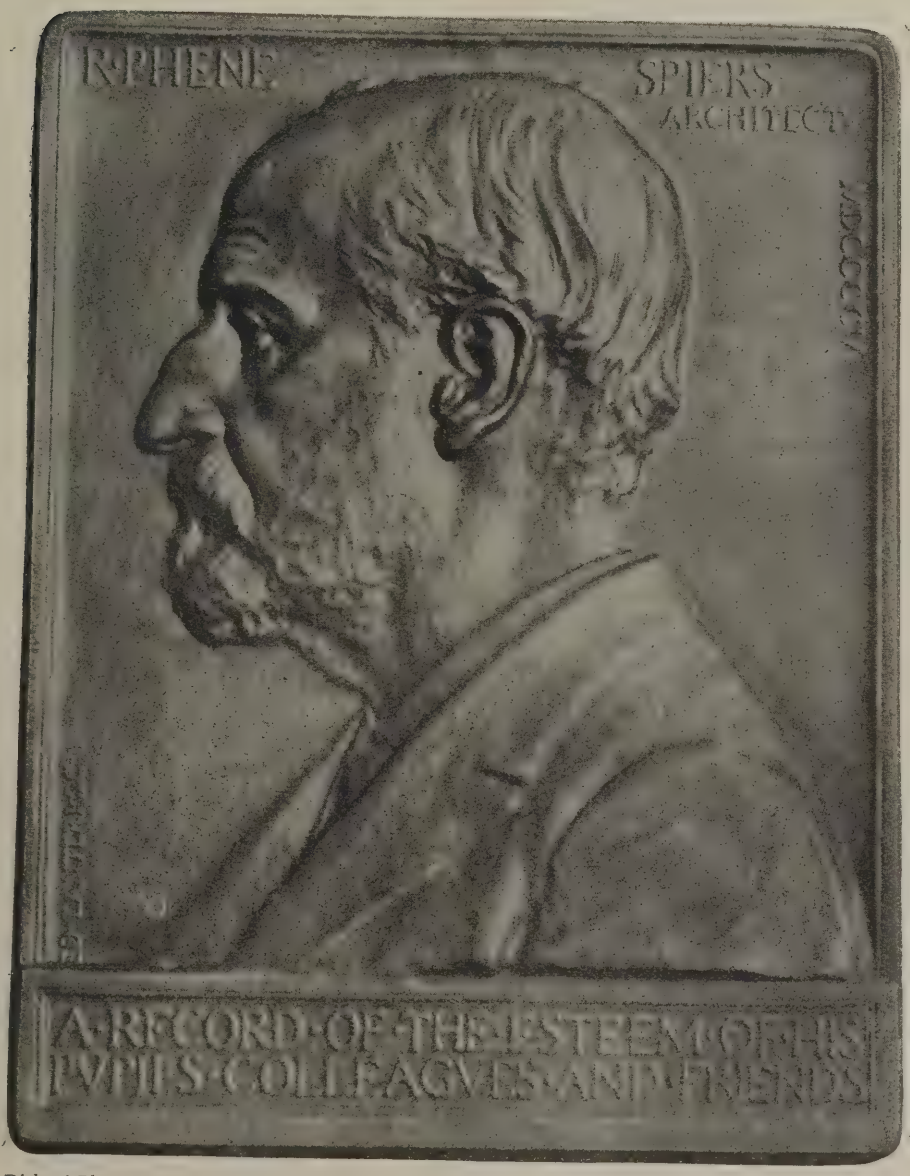
Telegrams: Dawnay, Cardiff.

dnesday, September 1, 1920

Volume LII. No. 1339

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



Richard Phené Spiers, great architectural scholar, writer, and teacher, was born in 1838 and died in 1916. He was educated at King's College School, and for three years (from 1858) was a student in the Atelier Questel of the Ecole des Beaux-Arts. Afterwards he worked in the office of Digby Wyatt, and, in 1861, became an Associate of the Institute, several of whose big prizes and studentships he won, besides gaining distinctions in the Royal Academy Schools. He carried out a fair amount of work, mostly of a domestic character. Was extraordinarily successful as Master of the Architectural School of the Royal Academy, an appointment which he held for thirty-six years.

27-29 Tothill Street, Westminster, S.W.1.

Air Views of Buildings. 2.—The City of London with St. Paul's

Copyright Architects' Journal (Photo : Aerofilms, Ltd.)

Here we have an intensely interesting view of a large part of the famous "square mile." St. Paul's, looking like a precious jewel set in silver, is

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

nesday, September 1, 1920

Volume LII. No. 1339

Notes and Comments

The Labour Troubles

HE threatened strike of the miners, and the general apprehension that it might ultimately paralyse all industry and bring the country to ruin, have momentarily distracted attention the troubles that are more immediately confront-he building trade. Chief of these is, of course, the tened breakdown of the Industrial Council. re of this means of negotiation, to which many sanguine persons were looking as a means lving the great industrial problem by an equitable ustment of the relationship between capital and r, reopens the whole question: and, unfortunately, alternative attempt at solution by establishing ers' Guilds leaves the employer out in the cold. op of these troubles come the preposterous demand e London and Southern Counties workers for a four hours' week at three shillings an hour, and the ncement that the Government have naturally gh doubtless very reluctantly) withdrawn some of uarantees they were prepared to offer the workers turn for certain relaxations of trade-union stiff-dness. Sheer temper enters so largely into these rs that it is rather tactless of the Government to to play fast and loose with the unions, to the ology of whose members they seem to be remark-insensitive. There is nothing more irritating to than to have the prize dangled before their eyes moment and then snatched away. Happily, there assuring signs that the workers are becoming more nable. Some of the trade unions are repudiating action, and are deprecating the crass selfishness miners' menace against the commonwealth. At rade Union Congress, to open at Portsmouth on mber 6, several extravagantly Socialistic motions for instance, the proposal by the Amalgamated of Labour and the Plumbers' Union of the pool-incomes—are to be put forward, but some of them absurd that they will surely be laughed out of f the British workman's sense of humour has sur-the war. The same fate should await the extra-demand of the London builders; for, as the ers contend, wages in this industry have already d the extreme economic limit; building work already far too dear.

The Unification Committee

ough the Unification Committee is no doubt work-y hard, it cannot be expected to present its report ar. Representative as it is of the entire profes-including nominees of allied societies (of the A.) in the Dominions, its members are so widely ed as to emphasise very strongly the relationship n time and space. In any case, a committee com-a membership of sixty or more members could not be expected to come to swift agreement, even were the matters at issue much less miscellaneous and momentous than they are, but when it is remembered that some of the members are as far off as the Antipodes, it will be clearly realised that to obtain and collate and deliberate upon materials that must come from overseas will necessarily be a somewhat protracted task. These considerations call aloud for toleration and patience, to the exercise of which goodly virtues this note is intended as an incentive. We may feel perfectly well assured that under the energetic presidency of Mr. John W. Simpson no unnecessary delay is at all likely to occur.

London University Site

Controversy on the London University site question continues briskly. Professor M. J. M. Hill has replied to Lord Dawson of Penn's objection to the Bloomsbury site. "It is very strange," Professor Hill remarks, "to find a scholar attaching so little importance to the proximity of the great national treasure-house of learning." In reply to Lord Dawson's demand for space, Professor Hill says "it is known that about 45 acres of land in the immediate neighbourhood will come into the market at varying dates during the next thirty years." He adds that if the site is secured with the goodwill of the London County Council it should be possible to divert the traffic through Keppel Street, so as to pass along Montague Place, which could then be widened by the width of Keppel Street, the portion of that street now crossing the site being handed over to the University in exchange for the ground added to Montague Place. This would make a large open space between the University and the Museum, and provide a better frontage for the University. In reply to Professor Hill's letter, "Amicus Curiæ" prognosticates that in thirty years the cost of land in Bloomsbury will render hopeless an attempt to acquire any of it for extension of the University, which would therefore be hemmed in by commercial buildings. "Thirty years," this correspondent concludes, "is a short time in the life of a university. The impolicy of planning it on a scale which would call for extension within thirty years has only to be stated to be evident to most minds." To most, perhaps, but not to those that realise the distinction between a university and its headquarters. How have Oxford and Cambridge Universities expanded? By adding colleges in the suburbs. London University, apart from its affiliated colleges, has no real existence as a teaching university. These will continue to grow up as required, in various districts: but Lord Dawson and "Amicus Curiæ"—and, less positively, Professor Hill also—argue as if they were all to be collected in one street, square, or park. There is no earthly reason why they should be thus congested. All this talk about expansible sites is therefore entirely

beside the mark. All that is really required is a headquarters building that shall collate and reflect the educational energies of the capital, and shall be of sufficient nobility of design and size to stand for a token of the respect in which learning is held in London. On the general considerations of locality we find ourselves in disagreement with our distinguished contributor Major Barnes, whose views are set forth on the opposite page.

Proposed Statue of Lord Fisher

A statue is to be erected to the late Lord Fisher on a site near the Admiralty buildings. The London correspondent of the "Manchester Guardian" suggests that the sculptor best qualified by knowledge and understanding of the bluff old admiral is Mr. Epstein, who did the bust of him that is now in the Imperial War Museum, which, the correspondent says, " presents the old warrior with terrific force and understanding. Most sculptors would have whittled away the thrust and audacity of Fisher's storm-beaten visage, but Mr. Epstein gave us something which says in every line, as someone said of John Knox, 'He never feared the face of man,'" nor, it may be supposed, the chisel of uncompromising realism. If Mr. Epstein accepts the commission there will ensue a most fortunate collocation of sculptor and subject, and the result should be the most animated image in London.

Sanitation of Theatres

At last the Ministry of Health is finding suitable work to do. It has sent to local authorities a circular letter requesting them to look to the sanitary condition of theatres and music-halls. It has been urged into this activity by representatives of the actors themselves, who have suffered severely from the quite distressing conditions in obscure provincial theatres. An official of the Actors' Association is reported as saying that in the more remote parts of the provinces the managers of theatres are less thoughtful about the health of the artists than they are in London or in the important provincial towns. In many instances, he said, the architects appear to have forgotten about the convenience of the players. When it was discovered, as an afterthought, that dressing-rooms were necessary, "accommodation was provided under the stage immediately over the drainage system." An actress contracted diphtheria from a drain in her dressing-room, and similar instances had been rather numerous in the past. Now that the Ministry has taken action, and has thrown out the warning that defective sanitation will imperil the licence, due attention will be given to this vital detail in theatre design. The Home Office suggests that the licensing authority should require a certificate from the sanitary inspector that the condition of the building is satisfactory in sanitary and other respects, and in granting a licence should attach to it such conditions as will ensure that the building shall be maintained in a proper state. Better late than never; but surely such elementary precautions should have been established half a century and more ago. We see no reason, however, for dragging in the architect. It is more likely than not that where these defects exist no architect was employed. No qualified architect would be guilty of such grave omissions. Very many buildings that are used, whether regularly or casually, as theatres, music-halls, or picture-palaces, were built for quite different purposes, and were "converted" to the new use by incompetent persons. For example, we know of an abandoned chapel that was made into a theatre (of sorts) by the local carpenter, whose knowledge of sanitation was certainly not superabundant. With more stringent regulations in force it is far more likely that the architect will be consulted to make straight the ways of the sanitary inspector and prevent the licence from lapsing. But he should not have been blamed for faults that he never had a chance to commit.

London School Buildings

The education scheme submitted by the Lon County Council to the Board of Education contains brief but pithy chapters on school buildings. These illustrated with a few elevations and several sets of pl and these the architect will find even more interes than the text. A very able critic of the scheme, wri in " The Times " Educational Supplement of August uses the convenient terms "flush-deck," "two-deck and "three-decker" for the respective heights of sch "Flush-deck" schools will be adopted, no d wherever possible; and the three-decker should share fate of the old-time ships and the coeval pulpits, b is to be feared that in congested areas they are likel survive protest. "The Times" critic finds the plan very good on the whole, and from this verdict our rea (to whom later pages of this issue afford an opportu of forming their own opinion) are not, we think, a likely to dissent. They will agree, too, that "the abundant need of experiment in detail; as to the and hanging of the windows, the ceiling and the roo and a hundred small matters, all but stereotyped ir fifty years' evolution of the three-decker, but th into the melting-pot" (that long-suffering melting- "with the return to the more countrified ideal of flush-deck." We would join the critic in pleading some abatement of the austerity which renders London schools so sombre and joyless—for more urb of manner, an occasional softening of structural fo and "a more confident approach towards gaiet colour." It would be well, perhaps, if the Co school did not, in its elevation, present too strong a trast to the picture-house, lest the one shoul regarded as the preface to purgatory, the other palace of delight. We could wish that the Educat Supplement critic had dealt more impressively wit educational or psychological value of a decorous e tion. This subject, as our readers are aware, we re as of great although insufficiently recognised im ance. So, we imagine, does Mr. Topham Forres architect to the Council, for he has erected, in va parts of the country, some very comely schools; a word or two on the subject from an authority on educ would have strengthened his hands in case he s encounter any difficulty in convincing the Council (w embargo upon stone dressings will be remembere the soundness of this rather neglected doctrine.

A "Mayflower" Relic

Delegates to the "All-Friends' Conference" he Devonshire House visited the famous Jordans me house in Buckinghamshire. Adjacent to this which was built in 1688, are the graves of the and a barn near it is said to contain beams that were timbers in the "Mayflower." It is quite po that the Pilgrim Fathers gazed upon them. In sp Buckinghamshire's being so remotely inland a cou is rich in waterways, on which the timbers may been carried. Many old timber buildings are const of wood that was once afloat on the ocean; for time ships had first claim on the native timber; a the "hearts of oak"—the ponderous old three-decl grew in numbers, and the merchant service saw sponding expansion, they depleted the forests to s extent that a return of wood was eagerly sought they were broken up. Naturally, therefore, the work in buildings that date from the period of Eng naval expansion—what time 'the wooden walls England" became the subject of song—is rathe likely than not to have had a seafaring expe There is therefore no inherent improbability in the tion that the Bucks barn is built of "Mayflower" ti If it is not, it ought to be, considering the proxin the graves of the Penns.

Kenwood or Bloomsbury ?

By MAJOR H. BARNES, M.P., F.R.I.B.A.

THAT the University of London should be housed worthily who would question? Universities have made cities. It would not be unfitting if a city, The City, should make a University. E. V. Lucas, in his "Wanderings in London," says that there are no public-spirited Londoners. That may seem sweeping, but when one reflects that out of the square mile of millionaires, not one has appeared with purpose and intent to provide for London University a worthy home, it may be that Lucas is right. Now a piquant situation has arisen. Private help is not forthcoming. Public assistance may be had on terms. A site has been offered. A site in Bloomsbury adjacent to the British Museum. There appears to be little enthusiasm about the choice, and, in the opinion of some, Hampstead rather than Bloomsbury would be the more fitting position.

Why Bloomsbury ?

It seems strange even in these days, when the State is doing so much for everybody and everything, that the Senate of London University should have pressed upon it a site which it does not seem particularly to want. So strange, that I ventured to inquire from the Minister of Education if the Bloomsbury site was suggested to the Government by anyone authorised to speak for the University of London, and I was told by him that the Government decided the site was undoubtedly the best for the purpose after careful consideration of alternative suggestions, and the views expressed by the public bodies concerned, including of course the University itself. One might be forgiven for imagining that the opinion of the University ought to be the decisive one. That opinion does not appear to be either decisive or unanimous, and it is not difficult, apart from financial considerations, to understand that a real difference of opinion may arise as to the wisdom of housing the University in the heart of London, rather than seeking for it a place on the outskirts.

Kenwood

Somebody in the House raised the question of Kenwood, Hampstead, as an alternative site, and having the opportunity I took advantage of it to see for myself what the proposed situation offered. Some of my readers may know it; more, likely, have never seen it. It is situated within four miles of Charing Cross, comprises some scores of acres of rolling pasture and forest land, with at one point a gorgeous view of the City of London and St. Paul's. I was reminded as I wandered round it of the situation of that college described in Tennyson's "Princess," and I could well understand the preference shown towards this position by those who regard it rather than Bloomsbury as the site of choice.

From a merely spectacular and architectural point of view, much may be said for Bloomsbury. Taken together with the British Museum, it would present a great monumental structure, but whether that is the thing to be considered in placing the University is open to one question.

Youth Must be Served

Universities are for life, young life, and not life for universities. It may be that in Bloomsbury the visitor to London could more easily admire an additional feature added to London for the attraction of sightseers; but, after all, is that the main consideration? What of the students? I take it that for some at least the desire is that London University should gather round it that residential life which is so linked up and bound up with the whole conception of a university. Bloomsbury is not the place for this. True, many people live there. I for one could live well in those roomy old houses, but they are not for young folk. They want recreation, sports in the open air, expansiveness, and freedom, and that can never come in confined streets and roads. They want the openness and isolation that Bloomsbury can never give.

If we were thinking only of grave and reverend seniors, of distinguished visitors who must not be taken too far from their hotels, well Bloomsbury is the thing, but if of boys and girls who will learn more in the open air than in any class-room, the University must go farther afield. Afield, that is the word. London has lost its great schools. Charterhouse to Godalming; Christ's to Horsham. Westminster still clings to the Abbey, but is there any interested observer who, despite all historic associations, has not some regret that boys should spend their school life in a city.

London's Problem

The problem London has to solve is to keep its University, and yet find it a setting which shall marry nature with art. There may be other places, but certainly such a place is Kenwood. When that wise judge, Mansfield, selected the spot, it was a judgment of equal wisdom with many of those of his which are still quoted with reverence in the Courts. The house is better within than without. It would, I suppose, be preserved, but, apart from it, there is a splendid curve of open field where a great university might extend a glorious front. There are woods and water, meadows open to the sky, and all the surroundings that culture and leisure can desire.

A Gift—on Conditions

In view of all this, I am concerned to be told by the Chancellor of the Exchequer that the Government are not prepared to ask the general taxpayer for an extraordinary contribution to London University except in respect of the unique opportunities afforded by the Bloomsbury site. I do not know if these opportunities are more than I have suggested, but I do think it is a pity that the Government should take up this position. It would seem as if they for some reason attached more importance to the location of the University than to the University itself.

What says the University ?

Why the general taxpayer should rejoice at its being placed in Bloomsbury and be indifferent to its being lodged, say, at Hampstead I cannot quite follow, though I cannot help feeling that if the general taxpaper took any interest in the subject Hampstead would not dull that interest for him. People do go in crowds to Hampstead, and do not go to Bloomsbury; and though the Chancellor of the Exchequer and the Minister of Education may think it unlikely, I can well imagine that London University might be even better known if it were situated on the heights to the north of London than if it were placed by the British Museum.

What would be interesting, if it could be got, would be the opinion of the University itself, first of all as to whether it should be concentrated, and, secondly, where. To such an opinion even Whitehall might give some heed, and the assistance required would, I venture to say, meet with less criticism than is usually applied to the expenditure of His Majesty's Government.

The Week's News

Mr. John W. Simpson, P.R.I.B.A.

The President of the Royal Institute of British Architects, Mr. John W. Simpson, has left England for Cairo on a mission for the Egyptian Government in connection with the Quasr-el-Aini Hospital.

Peterborough Hospital Competition Awards

The assessor in the above competition, Mr. Edwin T. Hall, F.R.I.B.A., has made his awards as follows: 1st, Mr. Wallace Marchment; 2nd, Messrs. Kenyon and Livock and Aylwin and Bowring; 3rd, Mr. Horace Cubitt.

Manchester Corporation and a Cinema

The decision of the Building and Improvement Committee of the Manchester Corporation to prohibit, under the "luxury" building regulations, the extension of the La Scale Cinema Theatre has been upheld by the Appeal Tribunal in London.

Messrs. Winget's New Branch

Messrs. Winget, Limited, of 24, Grosvenor Gardens, Westminster, S.W.1, have opened a branch at 32, Norris Deakin Buildings, King Street, Sheffield, at which they will be pleased to answer enquiries regarding their concrete block making machinery and allied products.

Manchester Society of Architects

Valuable information of considerable and daily assistance to architects is to be found in the Kalendar, which has just come to hand, of the Manchester Society of Architects. Membership shows a substantial increase, and while every effort is made by the society to protect the professional interests of their members, the social side has by no means been neglected. Mr. A. W. Hennings, F.R.I.B.A., is president of the society for the ensuing year, and Mr. Francis Jones, F.R.I.B.A., hon. secretary.

Mr. E. A. Rickards

We greatly regret to announce the death of Mr. Edwin Alfred Rickards, F.R.I.B.A., which occurred at a nursing home at Bournemouth last Saturday, at the early age of forty-eight. For twenty-three years he had been in partnership with Mr. H. V. Lanchester, with whom he collaborated in the design of such important buildings as the Cardiff City Hall and Law Courts, the great Wesleyan Central Hall at Westminster, Deptford Town Hall, and others. Mr. Rickards had earned a high reputation for his consummate draughtsmanship. An extended notice of his career is postponed to a more fitting opportunity.

New Steelwork at Crystal Palace

An unusual engineering feat is on the point of being completed by the engineers attached to the Crystal Palace. For nearly 70 years, since 1854, the vast central bonnet or arch of glass has remained more or less in its original state. Recently, however, the authorities came to the conclusion that it would be advisable to strengthen this particular structure. Working upwards from the bottom, the engineering and contractor's staff have put up a series of steel stanchions to a height of 120 feet. On top of these, they have bridged the arch with a steel girder, 90 feet wide. Further steel supports on top of this carry the total height to 180 feet. Altogether, over 80 tons of steel have been used, and the difficulty of the task in raising the mass of material to the height required may be imagined. When the work is completed, the whole arch will be strengthened by an intricate steel support, which, however, will not visible from the outside, so that the outward effect w still be that of a "Crystal Palace."

Labour for Housing

The Government, it is understood, have made revis proposals to the building trade for a national agreeme to expedite the erection of houses, these recommendi that the number of apprentices shall be double th allowed under ordinary rules, with special considerati for ex-Service men, and that housing shall have the fi call on labour. The proposals carry with them invitatic to the trade also to make suggestions: to check buildi which would impede work on housing; to investig the high cost of building; and to provide an alternat to the rejected "payment by results" scheme. T Government state that they cannot regard the su gestions of the Resettlement Committee as adequa as they would bring the number of apprentices only the normal level, and would not be sufficiently attract to older apprentices.

Glasgow Housing Exhibition

All the available space at the Housing and Hea Exhibition to be held in the Kelvin Hall, Kelvingro from September 15 to October 9, has now been prac cally taken up by exhibitors, and the show promises be a highly successful one. Arrangements are be made for providing a musical programme every aft noon and evening by popular bands. Enquiries regard the competitions for artisans show that these sho prove very attractive. The construction of the cott which is being erected by the Corporation under supervision of Mr. Peter Fyfe, Director of Housing proceeding rapidly. This should prove an interest feature. The cottage will be fully equipped with fu ture, furnishings, and fittings. In the Cinema Ho the Canadian Government will display several of th official films dealing with such interesting subjects as great national industries of Canada, etc.

Belgian Honour for Mr. Ernert New

The King of the Belgians has bestowed upon Ernest Newton, O.B.E., R.A., past-President R.I.B. the Cross of Officer of the Order of the Crown. Belgian Ambassador, in forwarding the insignia, sta that the Foreign Office had communicated to the E bassy His Majesty King George's permission to Newton to accept and wear the decoration on cer specific occasions. Mr. Newton, it will be remembe had scarcely been installed in the R.I.B.A. Presiden Chair when the war broke out, and he had to cont with the unprecedented difficulties and anxieties beset the President of the Institute at that trying ti Amid the stress of it all he lost no opportunity of sh ing in the most generous form his sympathies with numerous Belgian architects who had sought asylun this country from the terrors of the German visitat His own personal hospitalities and benefactions v freely bestowed upon the refugees. Such opportun as his official position afforded were utilised to the utm on their behalf, and he was unsparing of himself in exertions for the amelioration of their hard f Gratifying testimony to the success of his efforts made in the letter addressed to the Institute from President and Vice-Presidents of the East Flan Society of Architects, where it is stated it was thank the R.I.B.A. that the greater number of their expatri brethren were able to live in comfort and dignity. Newton will have the sincere congratulations of the fession upon the honours which have come to him.

(*News continued on page* 250.)

Architectural Causerie: East of the Tower

(Concluded from last week.)

WE have examined the first of the mercantile fortresses. What of the streets and social life of the dependents of these strongholds, who, in strict accordance with ediæval tradition, enjoy a feeling of security in e shade of rugged strength? The workers who elt in this strange waterside quarter give allegiance to e banner of St. George-in-the-East. They are true lowers of the Cappadocian; the dragon that threatens ir existence is very real, in spite of his maiming, but ey continue to brighten up the drab fronts of the inutive houses from Upper East Smithfield to St. orge Street; they have a nice taste in curtains; they , if they feel the inclination, admire Sheraton and anean touches in the woodwork of the decaying shopnts; they can study an Oriental version of the orders architecture at first hand; to their gaze all the steries of the art of Coade are disclosed; yet it is btful whether any but adventurous spirits from the st understand such things. In spite of improvements the semi-civilisation to which St. George's has anced, little trace can be discovered of the original abitants, for alien names embellish the fascias of ps, and Irish people slave for Hebrew masters.

* * *

Many treasures of building on the small scale stand in maze of alleys between Pennington Street and St. orge Street. Cable Street, also, is rich in detail y Georgian. How well the people group against the ventional scenery. What a rich custom the general os enjoy, but, alas, the farthing, once ubiquitous, has its purchasing value. Here we see Swedes, Norians, Belgians, Poles, Russians, and Danes; there a ale face of Hibernian beauty. Turning into Prince's are a rare surprise awaits the visitor, but it is a scene without a touch of pathos mingled with charm. nteenth-century houses, mostly of fifth-rate stamp, d mutely protesting against the intrusion of newers, baked hard to resist the soot. No longer do the ains and mates of sea-going brigs take their ease gin and tobacco and a copy of "Lloyd's Register" e parlour windows. In these times trim landladies, neted and crinolined, no longer make their way o' lays to Swedenborg's Church in the centre. The railings enclosing the churchyard have been overwn and the vases filched; the church itself swarms children. On high above the arm of the law youthniscreants, imbued with riverside cunning, scale the to strip the stout lead flashings. The ruinous state is curious expression of eighteenth-century building nds one forcibly of the hull of a brig out of commisand no longer seaworthy. Everything of value has since disappeared; even the bricks are being stolen. rotesting voice, however, would avail in these riverlabyrinths, even supposing the general public to be eciative.

* * *

om Prince's Square we repass to Cable Street, and thence, taking the North-east Passage, enter er residential square of former prosperity. The eenth-century illusion in this square is nearly com- To the south is the Well House, where Bo'sun taught the children of sailors the letters of the bet, and told them fantastic stories of the Yellow In this square lived Thomas Day, who wrote dford and Merton"; his house, number 36, still s. On the west side of the square—to be precise, e south-west corner—stands a fine specimen of a erboarded house, once the pride of a lesser mer- who built it in 1775. The old prison, or Sly e, has lost its sinister meaning, but you may gather impressions of its deterrent effect upon local crime by talking with any of the residents who understand the native tongue.

* * *

After scanning the countenances of the doorknockers, some of which convey the meaning of surviving Dibdin's songs and their relation to "Nockfergus," we retrace our steps to St. George Street, and so to Cannon Street Road, pausing outside the gates of St. George's-in-the-East. Behind these gates—which, by the way, are models of late Classic taste—stands the fabric and tower of Hawksmoor's megalithic church. In this church may be seen the emotional side of Hawksmoor's genius. In the main the body of the church conforms to Wren's principles, but the detail wavers between the pomposity of the style of Louis Quatorze and Vanbrughesque originality. The church has been spared transformation, although it once suffered reparation at the hands of an architect named Andrew Wilson, who took care to announce the fact in gilt letters on the gallery front. Mr. Wilson lies buried to the east of the church in a classic tomb of his own invention. It is a good tomb, and we can forgive this repairer his transgression for signing Hawksmoor's building.

* * *

From the church of St. George's it is but a step to the churchyard. There are many goodly monuments of the Hogarth period, a few later ones, and a plain stone slab marking the resting-place of the Marrs, who were murdered on December 7, 1811, within their little shop in the Ratcliff Highway. This shop has survived the events that caused De Quincey to write on "Murder as One of the Fine Arts," and sent a thrill of horror through the Kingdom.

* * *

The churchyard of St. George's-in-the-East, together with the old Wesleyan Burial Ground, now form a veritable oasis in the bricky desert. The paths have been flagged with tombstones of former parishioners. The flower-beds are gay with colour, seats are placed conveniently; in addition, the gardens boast a diminutive Natural History Museum. Truly, St. George has marked his encounter with the Dragon in an admirable way.

* * *

There is life to be seen in this quarter of nautical London, and many a relic of architectural delight, ranging from the time of Defoe to the days of the younger Pitt. We can continue our walk down Gravel Lane, noting the Dickensian flavour of the place, notwithstanding the modern swing bridge. Here we can stand with other frequenters to watch some ocean going tramp slide out of the London Dock like a superannuated duck. We are subjected to the stare of the sailormen who are going round the Horn, and when we continue our walk we are confronted with a building almost Dutch in style. How many architects have heard of Wapping Church, of the Bluecoat School adjoining the church, with the trim boy and the sweet maiden within the niches, the work, doubtless, of some incipient Roubiliac, who for all we know rests in the churchyard? We pause at Wapping Stairs, beyond the "Town of Ramsgate," where the broad Thames stretches across to Rotherhithe, and the setting sun lights up the gilded dragon—or grasshopper—copied from St. Mary-le-Bow, that swings above Rotherhithe steeple. Our visit is nearly complete, so by devious ways, taking Burr Street, with its Queen Anne houses, just as we should notice the canons' houses at Cloisterham, we return to Tower Hill, the Underground, and the lights of Occidental splendour.

AERO.

Modern Practice in School Design

THE "scheme" of the London County Council, prepared under the Education Act, 1919, has now been published in volume form. It makes a book of no fewer than 112 pages (foolscap size) and forms a very complete survey of the whole field of educational resources in the Metropolis—existing and prospective. It includes two very interesting chapters on the planning and design of elementary and secondary school buildings, from which we extract the following:

Elementary Schools

The modern planning of elementary school buildings in London has been in course of evolution since 1870. The most interesting development has been the introduction of a hall in each department so planned that it can be used for assembly, singing, drill, etc., without causing disturbance to the classrooms in close proximity to the hall. In the early seventies there was little professional knowledge of the requirements of a good school, and the building rules prescribed by the code were as elementary as the schools to which they were applied. The defects in schools of that time were that the staircases were long, steep, narrow, and ill-lighted; cloakrooms were not provided or were insufficient; the lighting of classrooms was chiefly from behind the children; and most of the rooms were used as a means of communication to others. In addition, the sites were small and the playgrounds inadequate. The dominant idea of the building was that of a central schoolroom holding several classes, supplemented by a moderate number of classrooms.

About 1878, the School Board for London adopted the policy of planning schools with separate classrooms to accommodate sixty children, as against the eighty then allowed by the code, and at this time also the Education Department raised the floor area in senior departments from 9 square feet to 10 square feet per child. The basis of school planning from that date was the provision of senior classrooms to accommodate sixty with a minimum area of 10 square feet per child.

The School Board had built one or two schools which lent themselves to the arrangement of separate classrooms and a central hall, and experience of these schools pointed to the desirability of having more room outside the classrooms. An experiment was accordingly made in the direction of classrooms arranged on either side of a central corridor running practically the whole length of the building. In order to combine teaching with the occasional use of a large room for collective purposes, the School Board erected schools of two further types. In one of these there were large halls available for boys and infants; the other type was a development of the central corridor type, flanked by classrooms.

In 1884 the first three-story school was opened, planned with halls for all three departments, and in 1885 thirty-two schools were opened, nearly all of which were provided with halls, or so planned for enlargement that halls could be added at a later stage. In 1891 the Education Department recognised the desirability of a hall to the extent of recommending the Local Government Board to authorise a loan of £1 per square foot of the hall floor space. With this concession the School Board provided halls in all new elementary schools.

In 1883 the School Board began to build schools in which left-hand lighting was provided in the classrooms, and this is now regarded as essential.

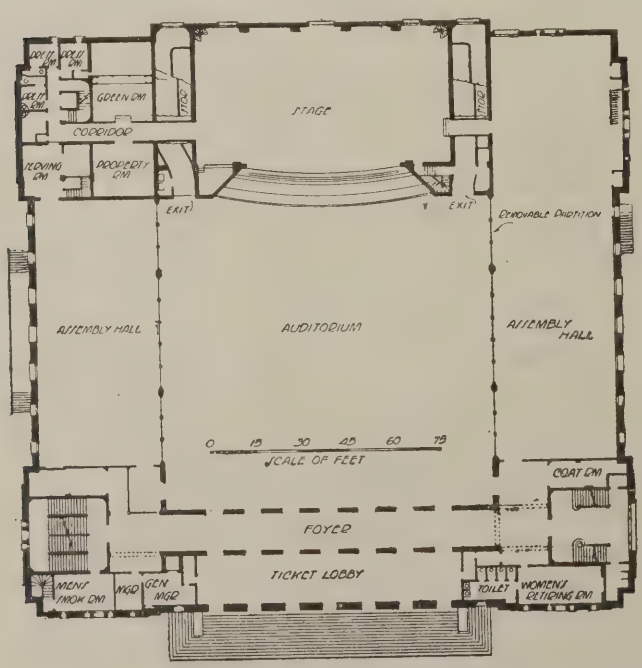
In 1901 the School Board decided that, in order that no class should contain more than fifty scholars usually present, or sixty on the roll, in new schools the rooms should be as a rule planned for forty, forty-eight, fifty, and that not more than one or two rooms should be planned for fifty-six and sixty.

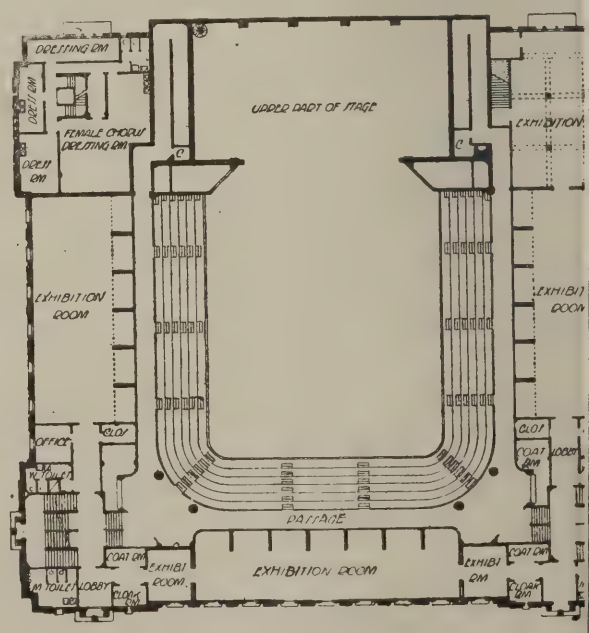
The principal characteristic of the schools erected by the School Board during its last few years, and of the schools erected by the Council between 1904 and 1909, may be described as compactne planning, the hall being used as a m of communication with classrooms, corridors being avoided as far as poss Teachers' rooms were usually place mezzanine floors over the cloakrooms

About 1910 various education autho in the country were desirous of plan the halls so that their use for singing drill would not disturb the work in adjoining classrooms, and with this o schools were built in which no classr opened off the hall. The Board of Ed tion supported this view both in respe elementary and secondary schools, a their regulations of 1914 urged that th should be so placed as not to disturl work of the classrooms, and that, fro point of view of ventilation and fre from dust, classrooms should not directly from the hall. At the same more careful consideration was give the Council to the aspect of the classr with the object of securing the acce direct sunlight. Teachers' rooms also provided on the general floor and not on mezzanine floors. In tion, provision was made for alter means of exit from all departments. further development during recent ye the provision in boys' and girls' d ments of "practical workrooms," in elementary instruction in science, n work, etc., is given.

In 1912 an agreement was made the Board of Education that maxi forty and forty-eight should be adop the Council's schools for senior a fants' departments respectively. All schools are now planned to give eff this agreement, and a number o schools have been remodelled on lines.

An important development in the ning of schools is the provision of rooms on the "open-air" system. number of the Council's schools cas windows opening as doors to the floo have been introduced, while other s have been provided with wi





PORTLAND PUBLIC AUDITORIUM, PORTLAND, ORE., U.S.A.: GROUND AND FIRST-FLOOR PLANS.

(See Plate opposite.)

Fig. 7.—Portland Public Auditorium, Portland, Oregon, U.S.A.

J. H. Freedlander and A. D. Seymour, Jnr., Associate Architects

Apropos of the Sheffield War Memorial Halls Competition, the first premiated design for which is reproduced in this issue, we publish illustrations of a recent American building of similar character and roughly the same dimensions. An interesting comparison is thus afforded of current practice on both sides of the Atlantic. It will be noted that the Americans, unlike their English confrère, dispense with the order, and trust to flat surfaces with a pilaster treatment. The building is at once simple and dignified and thoroughly expressive of its purpose. Our illustrations are from the "Architectural Forum." See also double-page plate.

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

specially designed to give a thorough circulation of air throughout the classrooms.

Secondary Schools

The planning of secondary schools has not shown as much variation as that of elementary schools, as the regulations under which secondary schools are built have remained fairly constant up to the present time. There has, however, been a change of view as regards the halls in secondary schools similar to that in connection with elementary schools. The plan of the County Secondary School, Laura Place, Hackney, shows one of the latest secondary schools erected by the Council.

Technical Institutes and Schools of Art

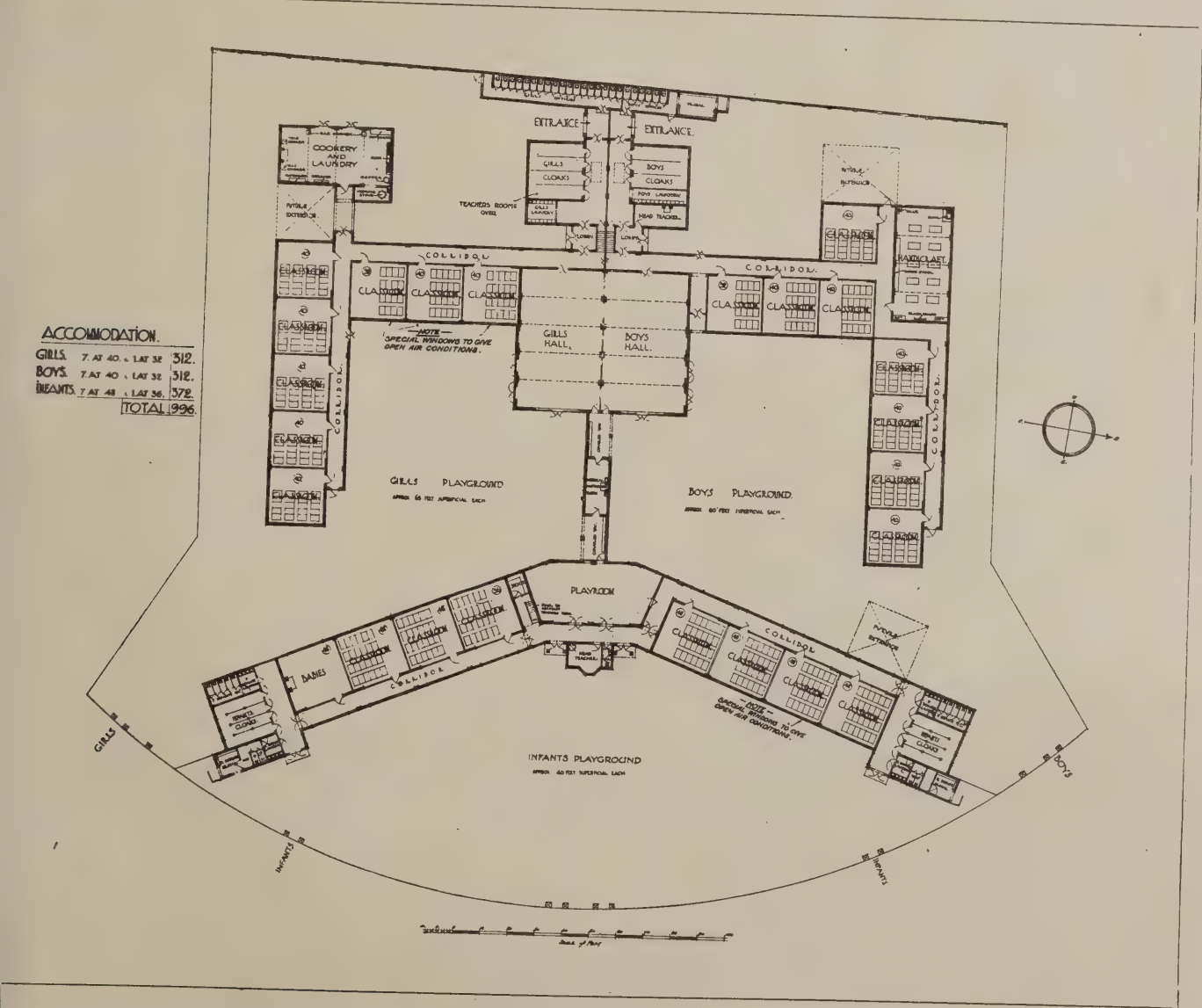
Technical institutes and schools of art have been erected in various situations in London which have been designed for practical and theoretical instruction in professional and manual work. The planning of buildings of this special type is governed by the courses of instruction to be provided, and is not standardised as is that of elementary and secondary schools. The Central School of Arts and Crafts, Southampton Row, is an example of this class of building.

School Architecture

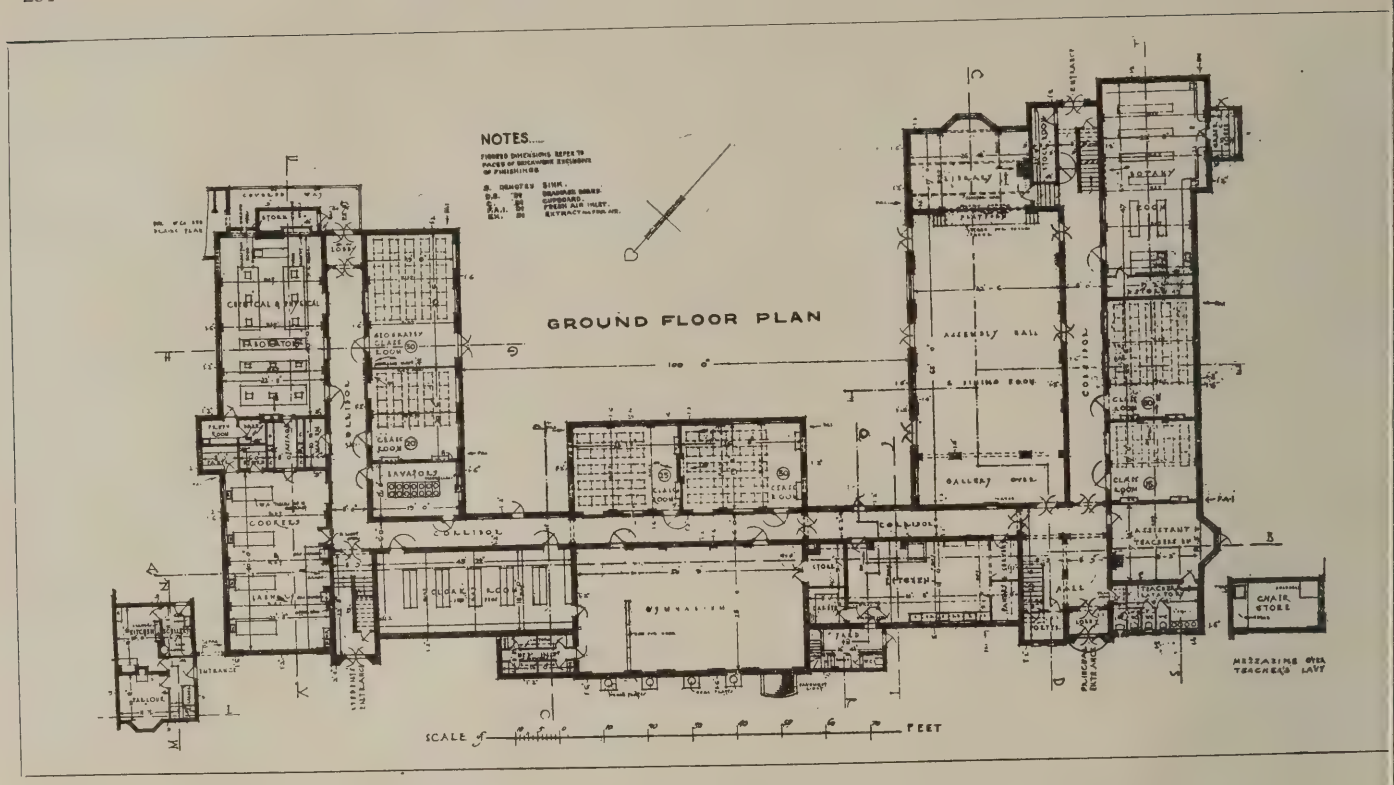
It is admitted that in recent years there has been a great increase in the cost of school buildings. It is reasonable to assume that this increase is attributable to two principal causes, (1) the development of educational methods and the higher standards of comfort and hygiene; (2) the rise in the price of materials and the cost of labour. Since the Education Act, 1902, great strides have been made in the erection of new buildings, but the war has created a new situation in regard to finance, and the problem of the most suitable building, having regard to all considerations, has assumed a different aspect. It may be taken, speaking generally, that the Council will proceed with the erection of schools which had to be placed on the postponed list at the outbreak of war, but the strictest economy in construction will have to be exercised; it is thought that this may be effected, to some extent, by the use of new and less expensive materials. Until recently, local by-laws throughout the country have prevented any great changes either in method of construction or type of materials. Now, however, that school buildings are exempt from all by-laws the school architecture should benefit from the adoption of materials other than brick and stone. As regards the administrative county of London the London Building Acts and By-laws as to construction and material do not apply to new school buildings.

Novel Forms of Construction

The Government have given a lead in this direction by erecting during the war munition and other factories of new materials and under novel methods of construction. Prior to the war little was known of these experimental methods of construction owing to the limited number of buildings erected at that time on novel lines. It is hoped that the Board of Education will now adopt a more liberal attitude towards the recognition of lighter forms of construction. In recommending the erection of school buildings built in such lighter forms consideration has to be given to what is termed the "useful" life of the building and how far it may be possible to make the "structural" coincide with the "useful" life. The standard of heating, ventilation, and sanitation, no less than the size of classes, has undergone great and important changes in the immediate past. These higher standards have necessitated excessive remodelling of school buildings, and many comparatively new schools are now out of date on that account; it may be necessary to expend a considerable sum of money in adapting these buildings to modern requirements.

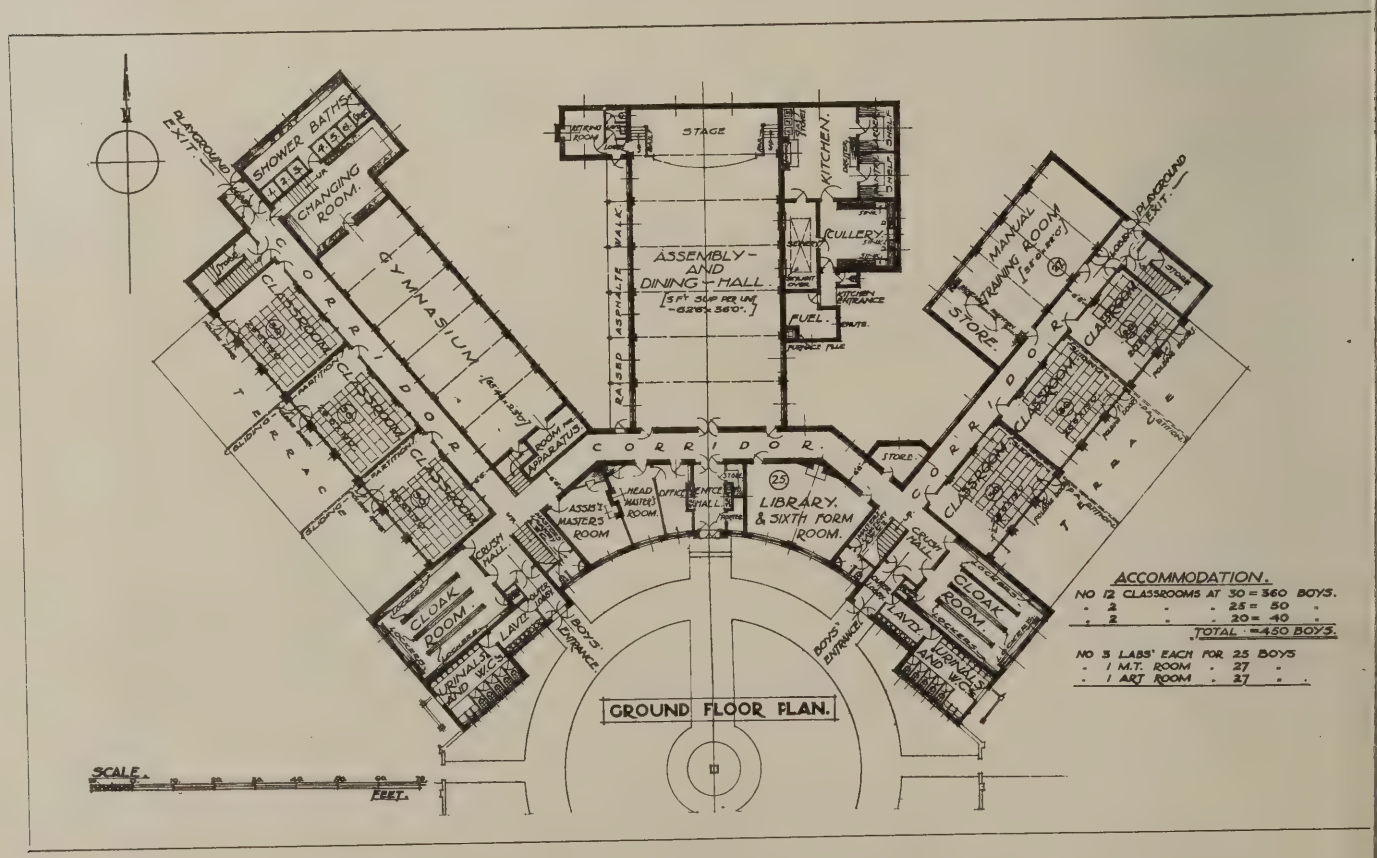


PROPOSED ELEMENTARY SCHOOL FOR THE LONDON COUNTY COUNCIL ON THE ROEHAMPTON ESTATE.



LONDON COUNTY COUNCIL SECONDARY SCHOOL FOR GIRLS, LAURA PLACE, CLAPTON.

It seems likely that the future planning of almost all types of schools will be influenced not only by present-day economic conditions but by the desire to afford facilities for open-air classes, and special features are being introduced in the design of new buildings to give effect to this principle. Schools on the outlying estates of the Council offer an opportunity, owing to freedom from the site restrictions obtaining in the more congested areas, of planning the buildings in such a way as to give as much open air as climatic conditions will allow. For the Bellingham and Roehampton estates plans have been designed of a pavilion type, which approximates, so far as educational exigenc will admit, to the lines of a sanatoriu The central or administrative portions contain the assembly hall, teachers' roo store rooms, etc., and the classrooms extend laterally as wings. The suggest is that the administrative portions sho be of a permanent character, and that



PROPOSED NEW SECONDARY SCHOOL FOR BOYS, DUCANE ROAD, HAMMERSMITH.

The first-floor plan shows laboratories over the gymnasium, shower baths, changing room, (left wing) and an art room over the manual training room (right wing) while the space over the semi-circle (from "cloak-room" to "cloak-room") is occupied by class-rooms. Otherwise the accommodation is virtually the same.

First Premiated Design

E. Vincent Harris, F.R.I.B.A., Architect

In this very important competition (of which a critique appears on page 243) the winning design is one which satisfies all the practical requirements involved. The colonnade on the principal front is an imposing feature, but its effect would be considerably enhanced if it were held in on either side by solid masses. A strong cornice runs around the building and unifies the whole design.

classrooms should be of light construction, which can be altered, adapted, or even demolished with a minimum of expendi- ure, experience showing that educational equirements do not affect the administra- ive portions of the building to such an xtent as the classrooms. The latter rooms ave, for years, represented a variable actor, and it appears desirable to provide or possible developments, unknown at resent, affecting this educational unit. 'robably the classrooms will be built in ome form of slab construction, rough- asted on the face, the intention being to ave these rooms as simple as possible, ithout any glazed bricks or dadoes in the nside. The partitions between certain of e classrooms should be movable, and oss-ventilation should be obtained by indows on both sides of the classrooms nd the external walls of the corridor. All oakrooms will be cut off from the school nd have cross-ventilation.

For some time past the construction of ay-sheds as such has been considered of estionable value, in that the space pro- ded in them is not nearly large enough include the whole of the children attend- g a school. In substitution for these, pecially in infants' schools, the central ll will be used (in addition to its normal nction) as a playroom, and the side walls d windows made to open so that the ect of an open-air play-shed is obtained.

In the older type of plans, and up to the r, the offices were placed in outside ildings, and in wet weather the children d to cross the playground to reach them. is will be obviated in the new types of ool proposed to be erected at Belling- m and Roehampton. There the offices l be attached to the main building, but l be entirely segregated from the main ilding by cross-ventilated lobbies. The a of placing the offices as far away as sible from the main building in schools the earlier types was, presumably, due the primitive sanitary arrangements n obtaining, but closets are now fitted h independent water apparatus, and ir complete segregation is no longer essary. Ample playground space will provided for the children in these semi- n-air schools—nearly double the mini- m laid down by the Board of Education. the central districts of the administra- county, however, where the cost of l is very considerable, it will probably mpracticable to provide the accommo- on required otherwise than in three- y buildings.

Secondary Schools

the case of secondary schools there be no ideal plan to suit all require- ts, as the organisation of each school erially affects the arrangement of the dings, and districts and centres vary large extent. It is considered, how- , that certain economies can be effected e construction of these schools. The artmental Committee appointed a few s ago to deal with economies in school truction stated "that in building ols the gap between the best and worst t very great, and the possible saving e effected by particular devices must usly be estimated, not by reference e standard of extravagant or even rately costly architecture, but by ence to the most economical work is done under existing conditions or to the most economical work which e done without these devices.

the planning of secondary schools no l rule can be laid down for fitting up the science rooms, as the size and character of the school must be carefully considered in determining the require- ments, but there are certain general prin- ciples to be observed in laboratory plan- ning, the neglect of which may lead to the production of a laboratory, apparently perfect on a cursory examination, yet so defective that the teaching of science is rendered a matter of considerable diffi- culty. In designing the laboratories of its secondary schools the Council has regard to the following four considerations:

(1) Laboratories should be capable of expansion and modification.

(2) Fittings should be so disposed as to minimise the unavoidable movement of pupils.

(3) The arrangement of benches, etc., should ensure ease of supervision on the part of the instructor; and

(4) The storage accommodation should be ample, and wall space should be left for additional fixtures.

It is proposed that the laboratories shall be lofty, and either top-lighted or the side windows so planned that the sill level is at least 6 ft. from the floor. By this means no wall space is wasted, and the light is better diffused. The walls, if wood- panelled to a height of 6 ft., enable all partitions to be easily fixed and easily moved. Glazed tiles or bricks, so often employed, though admirable as far as light and ease of cleaning are concerned, are impracticable when change of fittings is required.

The main desideratum in a chemical laboratory is plenty of room for the stu- dents to work. The working benches are either single or double, but single benches have the advantage that all students face the same way and so are under better supervision. Wall benches are undesir- able and are in all cases avoided. The benches where students work have inter- vening gangways of not less than 6 ft., but for a single row 4 ft. is considered suffi- cient. In a physical laboratory it is, of course, necessary to have tables free from vibration, and of sufficient width to allow of a student being able to place his appa- ratus in a proper position. The narrow single bench which many prefer in a chemical laboratory is avoided. Every physical laboratory contains a large stock of small drawers for the purpose of storing the numerous small appliances in constant use. Lever handles to the doors of the cupboards should be used as the ordinary pieces of hardware are often difficult to fasten, and liable to shake and perhaps injure the sensitive apparatus within the cupboard. All cupboards should have flat tops and glazed doors.

A few general observations may be added as to the Council's practice in the lighting and illumination of school build- ings. As regards the former, the relation of window space to floor space is at least one to six; this is the minimum propor- tion required for defective eyesight. As regards the location of the light, left-hand lighting is the accepted system in the Council's schools.

Increasing attention is being given to the problems of artificial illumination, and a higher standard is being aimed at. This standard is the outcome of steady develop- ment of efficiency in the illuminants them- selves as well as in the methods of appli- cation. The even distribution of light is the underlying principle which governs the correct application of artificial illumina- tion. This is essentially so in schemes of interior lighting.

Stone for Restoring Westminster Abbey

Further opinions with regard to the selection of a suitable stone for the restora- tion of Westminster Abbey have appeared in "The Times," and appended are inter- esting extracts from letters by Mr. Alan E. Munby, chairman of the R.I.B.A. Science Committee; Mr. J. Allen Howe, of the Museum of Practical Geology, Lon- don; and Mr. Cecil H. Desch, of the University of Sheffield. The views ex- pressed by Mr. Somers Clarke, Professor W. R. Lethaby and Mr. Edwin J. Sadgrove, to which reference is made below, were published in our last issue:

Mr. Alan E. Munby draws attention to certain weathering tests on building stones which are being carried out by the Geo- logical Survey authorities. Some ten years ago, as the result of a paper on the application of science to materials, the Survey authorities approached the R.I.B.A., and a little programme upon the weathering of stones was drawn up by the Science Committee of this Institute and the geologists. A number of specimens of common building stones placed in suit- able frames with regard to aspect have now been exposed on the roof of a building in the heart of London for nearly a decade, and from time to time these specimens have been examined and the deposits formed upon them have been assessed and tested, non-corrodible metal plugs being used to preserve the planes of the original faces. At the close of this year it is hoped to make a final report.

The opinions expressed seem to show very forcibly how much the problems of building demand the attention and collab- oration of men of science, and there seems little doubt that many millions might be saved annually by the expendi- ture of a few thousands of pounds on re- search. Many of the problems requiring solution were submitted in some detail to the Industrial Research Department by the Science Committee of the R.I.B.A. immediately after this department was formed. To return to the question of stones, looking at the problem generally the use of preservatives must surely imply the initial employment of material in some measure unsuited to its environment, and in attacking the whole matter we should probe the roots and not begin by treating symptoms, however necessary in specific instances. Probably the physical charac- ters of stone are really more important than chemical composition. For example, Ketton and Bath stone are both oolites, with very similar chemical composition but different physical structures, and the difference in the weathering power of these stones in London is well known.

Mr. J. Allen Howe, of the Museum of Practical Geology, London, says: After reading the letters of Mr. Somers Clarke, Professor Lethaby, and Mr. Sadgrove, one is tempted to ask, Why do we build with stone? Is it for the sake of per- manence or for effect, or for both?

As regards permanence, the fact must be faced that, though we may wish to build for remote posterity, in this country, with the architectural features we have adopted, we cannot do so. Repairs will be needed in the next generation whatever construc- tion may be undertaken. Our duty with national buildings is to build them as well as we can for the present, and see that funds are provided for their proper main- tenance in the near future. If a long view

is taken, it must be realised that stone has to be renewed just as certainly as a coat of paint. It is only a question of degree. When, in the course of time, we secure in our towns an atmosphere less acrid and destructive than that we now suffer, the life of the stones will be prolonged, but not indefinitely; for in the forms that are given to our buildings and the ornaments with which they are embellished we invite local decay.

In choosing stone as a building material we are actuated by tradition, by sentiment, and by our æsthetic sense. As a matter of fact, we could find other material quite as permanent if this quality were to be the sole criterion. In the choice of a particular stone we are influenced by its qualities, including its appearance, and by its cost; and as often as not cost has the last word.

Now, Mr. Somers Clarke suggests the employment of sandstone on the ground of its greater durability. We have in this country an abundance of excellent sandstones, but I would ask, Can it be shown that any sandstone used in London has behaved uniformly better than Portland stone, especially in those critical portions of the building where moisture exerts its greatest effect? And, further, are we prepared to substitute for the pleasing greys and whites of Portland stone the rather dingy uniformity that in existing circumstances is the final aspect acquired by sandstones in most towns? If a limestone is to be employed, there can be no question as to the suitability of Portland stone, because we know by experience exactly how it will behave; it is the most foolproof of all our softer limestones, and it will be in keeping with its surroundings. What Mr. Clarke says about its "degradation" is absolutely true, and is in itself the best testimonial that could be given to any limestone.

We are just now shocked at being reminded of the Abbey's state of decay, so we provide funds that will enable its guardians to replace the decayed stone by new stone that will suffer in the same way as the old. If we dipped a little deeper into our pockets funds might be raised that would allow of the employment of a stone of much greater durability and not inharmonious in appearance—for example, the granite of Carnsew or Delank. My point is that if greater durability is honestly desired it can be attained by paying the cost.

As for the "liquid washes," some are excellent, but to be really effective their application must be repeated periodically on the most inaccessible parts of the structure; this again means money. Others also are excellent in their way, but their use so alters the look of the stone that we might as well employ painted iron from the beginning.

Mr. Cecil H. Desch, of the University of Sheffield, points out that all limestone and such sandstones as have a cementing material containing lime between the grains are attacked by the acid gases which are present in the air of large towns, and this chemical action destroys the stone by dissolving out certain constituents and converting others into friable bulky salts which have little cohesion. It is quite possible to preserve the surface by suitable chemical treatment, and where decay has already set in the remaining porous surface, after removal of dirt and any loosely adherent rotted layer, may be preserved from further action.

A lime wash, as mentioned by Prof. Lethaby, closes the pores and checks the absorption of moisture, but it offers no chemical resistance to acid fumes and only delays the onset of decay. The best preserving agents are the fluosilicates of certain metals, such as magnesium. These are colourless, soluble, and non-poisonous salts. When a solution of magnesium fluosilicate, for example, is brushed over a porous surface of limestone, a reaction takes place, and three insoluble products are formed—namely, silica and the fluorides of calcium and magnesium. The porosity may be reduced to any desired extent (it is not advisable to render the stone entirely impervious to moisture), and the new surface is quite unaffected by acids. The fluosilicates have been very largely employed on the Continent, both for the protection of new and the preservation of old buildings, but they are still little known in this country, although they have been applied with success to several buildings. It is necessary for a chemist to make experiments in each case to determine the best concentration and mode of application of the protective salt to a given stone. Treatment with such salts has the great advantage of not altering in any way the colour or appearance of the stone to which they are applied. The raw materials for the manufacture of the salts are found abundantly in this country.

"Piecework" and "Payment by Results"

At the annual conference of the National Federation of Building Trade Operatives, held at Scarborough, Mr. George Hicks, the President, said that the question of piecework and payment by results had been raised at almost every conference held with building trade employers or Government departments, but its reintroduction into their industry had been steadfastly resisted. "We know the evil effect it has upon our social standard of life," he added. "In addition, we state that in no other industry are the temptations to scamping and adulteration greater and the opportunities of hiding bad work more numerous. We therefore have fought, and shall continue to fight, everyone who tries to reimpose such things.

"There is a marked desire on behalf of the Government to dump the building trade with dilution. Many conferences have been held, but in spite of the fact that Government departments are able to get the latest figures, they have utterly failed to demonstrate the need for dilution. We have on each occasion been able to counter with the abnormal number of men engaged upon non-essential and luxury buildings, and we insist that this work must be suspended and that there must be a proper proportionate transfer of labour from luxuries to housing."

Mr. Hicks described the building guild as a most interesting and useful experiment. Every encouragement had been given to the extension of direct labour. On the question of wet time considerable success had attended their efforts, offers varying from 50 to 85 per cent. for such time having been made.

The Conference passed the following resolution with regard to the guild system of undertaking housing schemes by employing operatives without contractors: "The annual conference observe with interest the advent of building guilds, and regard them as a valuable experiment to improve the conditions and status of the building trade operatives, and as the position develops undertake to consider t possibilities of establishing the moveme on national lines; and further suggest the local guilds that in forming their co stitutions they shall make provision such contingency." At the conclusion the conference Mr. George Hicks was elected president.

Progress of Private Hou Building

The National Federation of Ho Builders has circularised its members the subject of the Government subs scheme, under which a free grant of £ to £260 may be obtained by priv builders for houses erected before Dec ber 31, 1921. The circular states t representations on the part of the Fede tion to the Ministry of Health have sulted in many alterations which are importance in bringing the sche "within the range of practical busine "Those of our members who have b under the scheme," the circular contin "have found that there is a market their houses at good prices, and i strongly urged that every member sho erect a pair or two under this scheme trial lot."

Building by private enterprise conti to make excellent progress. Up to the of July sanction to build 15,636 houses been granted by the Ministry of He All these houses will, when completed eligible for the Government Hou grant of £230 to £260. The total com ment to date amounts to £3,776,461. the London district alone 3,863 ho have been approved, and may be assu to be either in course of constructio shortly to be erected. Lancashire Cheshire have 2,184 private enterp approved, and Yorkshire 1,291. Other tricts show a proportionate numbe houses to be built by private builders.

Riga Trade Fair

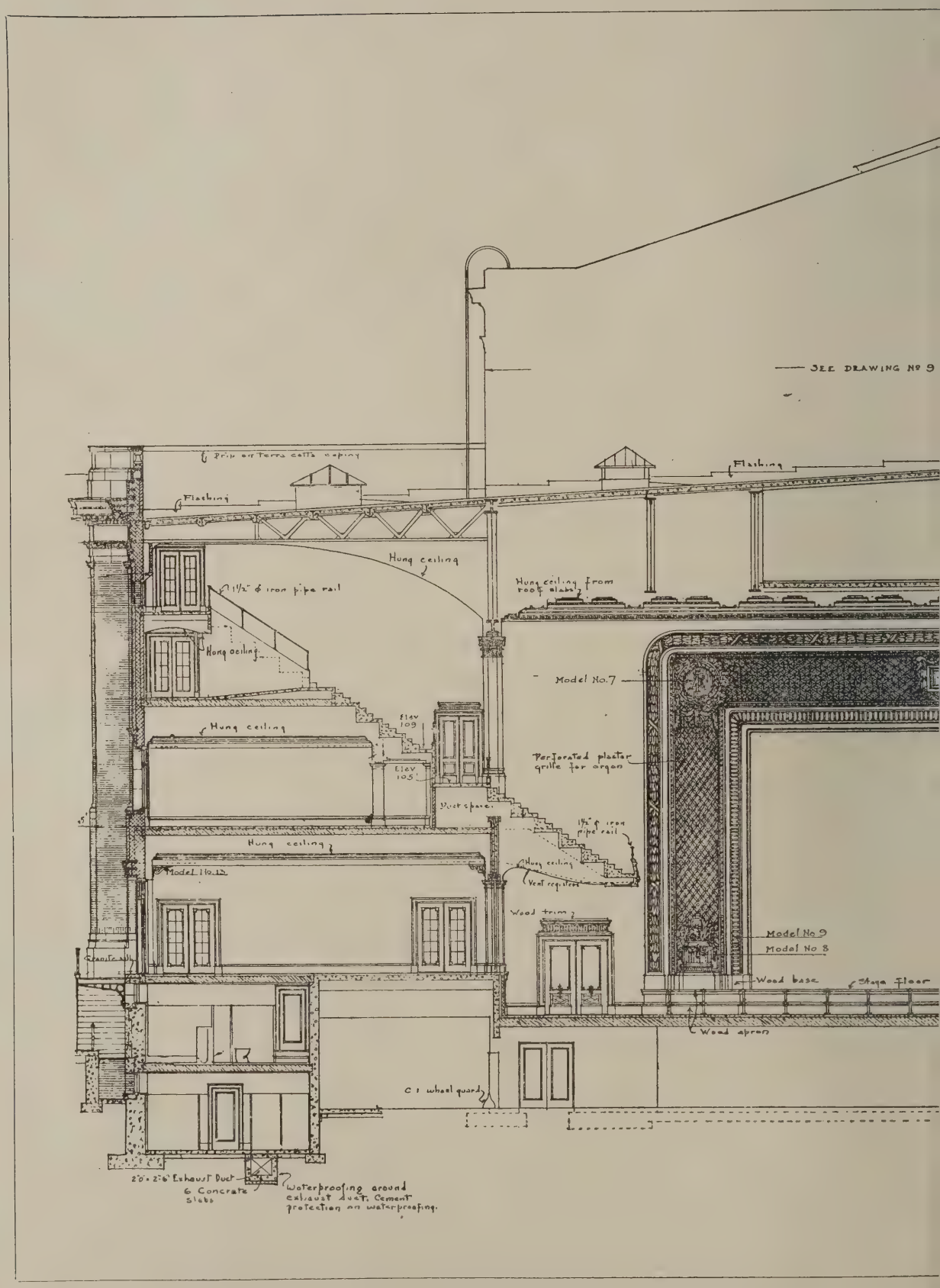
The Trade Fair, to be opened in last week in September, will be hel II. Weidendamm 30, Riga, and will ha duration of five weeks. The buildi ideal from an exhibitor's point of the halls are of "T" formation, enable the visitor to obtain a clear pression at a glance; the floors are of crete, and the window design such admit the maximum amount of light. building can accommodate well ove exhibitors, so that the latter will n scattered throughout the town, as frequently the case at Continental The terms upon which space is let t hibitors are as follows:

Four shillings per square foot per 50 per cent. payable on signing agree and balance on taking over stand. exhibitor will provide his own decorations, etc., and electric ligh tings. Electric current will be su by the Fair, who provide the wiring the electric mains to the exhibitor's The management has at its disposa best architect in Riga, Mr. Mandelst who will be available for technical and work. The exhibits will i manufactured timber, mechanical neering, constructional steel work allied trades, electrical engineering, steel, and allied trades, house furnis and ironmongery. For further pa lars apply to the British and R Transport Co., Ltd., 6, Lloyd's A E.C.3.

Architects' Working Drawings.

Oregon, U.S.

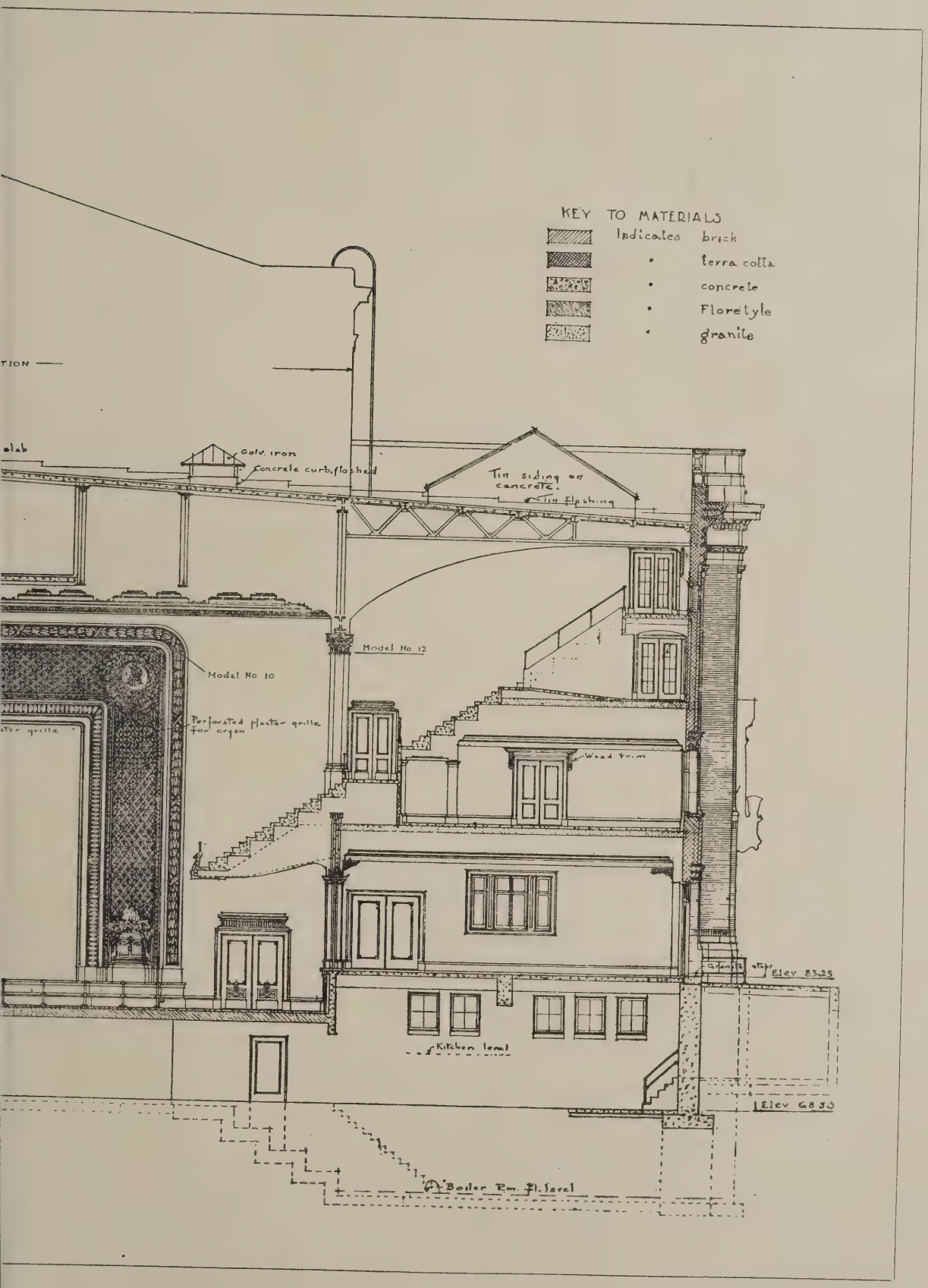
J. H. Freedlander and A



This extremely interesting section should be studied in
on pa

land Public Auditorium, Portland,
sverse Section

Jnr., Associate Architects



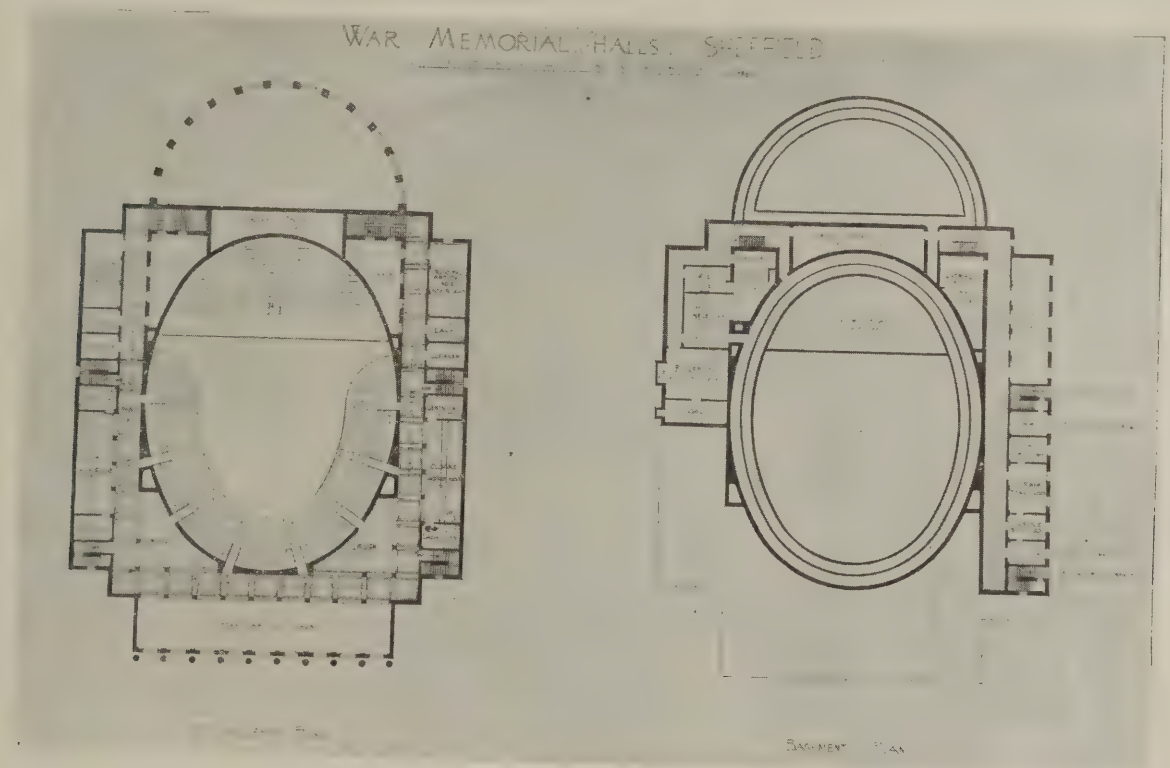
and external view of the completed building, reproduced
ly.

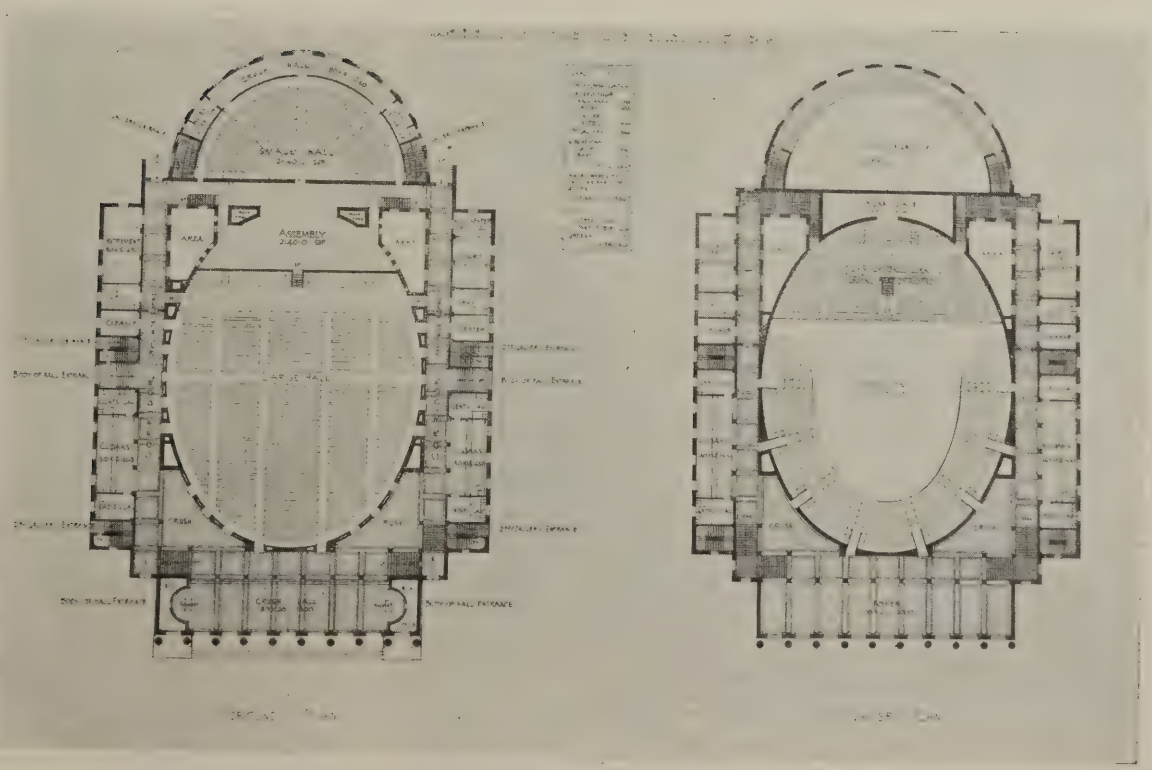
THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

Sheffield War Memorial Halls Competition

THE awards in this competition, in which forty designs were submitted, were announced in our last issue. This week we illustrate the first premiated design—by Mr. E. Vincent Harris, F.R.I.B.A. The competition was for new public halls for music and public meetings and as a war memorial for the city, to be erected on a site containing about 4,100 square yards, bounded by Barker's Pool, Holly Lane, and new streets. The expenditure on the scheme was fixed at approximately £200,000, and it was suggested that the architectural treatment of the exterior and interior should be dignified and simple, without over-elaboration of detail, with the memorial character of the building indicated by sculpture, which should form part of the design of the main entrance hall.

Mr. E. Vincent Harris's design is characterised by great simplicity and compactness, and, on the whole, is excellent architecturally. The colonnade on the prin-



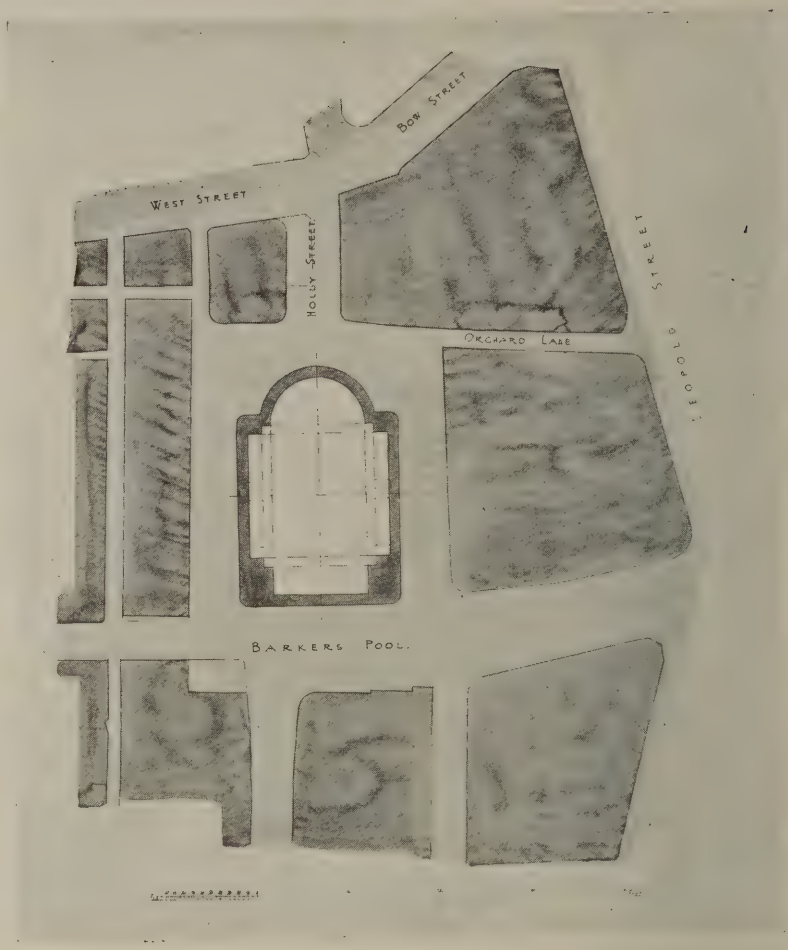


SHEFFIELD WAR MEMORIAL HALLS COMPETITION: PLANS OF FIRST PREMIATED DESIGN.
E. VINCENT HARRIS, F.R.I.B.A., ARCHITECT.

cipal front is an imposing feature, and would be more effective still if it were held in on either side by some solid masses. As it is, it seems to end "in the air," so to speak, and has an appearance of superfluity. The side elevations are boldly and broadly treated. A strong cornice runs around the building and unifies the whole design.

The building, which is to be constructed of brick faced with stone, accommodates a total of 4,000 people in two halls—a large hall which will seat 3,000 in the auditorium and two galleries, with an extra accommodation of 500 on the platform, and a small hall which will seat 500. The floors and galleries of the large hall are pitched to permit of the platform being visible with comfort from all parts of the hall, the floor of the small hall being staged. The spacing of the seats in the auditorium is on a basis of 2 ft. 10 in. by 1 ft. 8 in. for one-third of the area, and for the remainder an average spacing of 2 ft. 4 in. by 1ft. 6 in. is taken, gangways of 3 ft. 6 in. being provided and leading direct to the exit doors.

The main building contains, in addition to the large hall and its adjuncts, provision for the following: Crush hall and lounge foyer, cloak and retiring rooms for ladies and gentlemen respectively, kitchen and related offices, public office for hall keeper, booking and box offices, main, subsidiary, service, and escape emergency staircases, space for grand organ on platform, retiring rooms for male and female principal artists, ditto for chorus, platform, assembly rooms, rooms for instrumentalists, etc. The principal hall is oval in shape, and the corridors, communicating from one part to the other are all straight. The roomy foyer is a pleasing feature of the design. Instead of being broken up into three or four sections it is all in one apartment, giving ample space for those friendly assemblages which occur during the intervals of concerts. The cloak-room arrangements are excellent and very convenient planned. The platform and orchestra a contained within the hall itself, and r placed in an annexe or offshoot. It m be that the straight line of the platfo front will have to be modified into a b shape, in order to get the most success effect from a choral or orchestral perfor ance, and it is understood that emin musical experts will be consulted on t detail. It is intended to do everything p sible to ensure that the acoustic propert of the hall shall be thoroughly satisfacto The semi-circular smaller hall is of a go shape for meetings and concerts. It v be a good place to speak or sing in, and the audience will be brought well toget at no great distance from the platfo This hall is at the West Street end of building, and if necessary its erection co be deferred without in any way interfer with the effect of the main building.



SHEFFIELD WAR MEMORIAL HALLS COMPETITION: SITE PLAN.

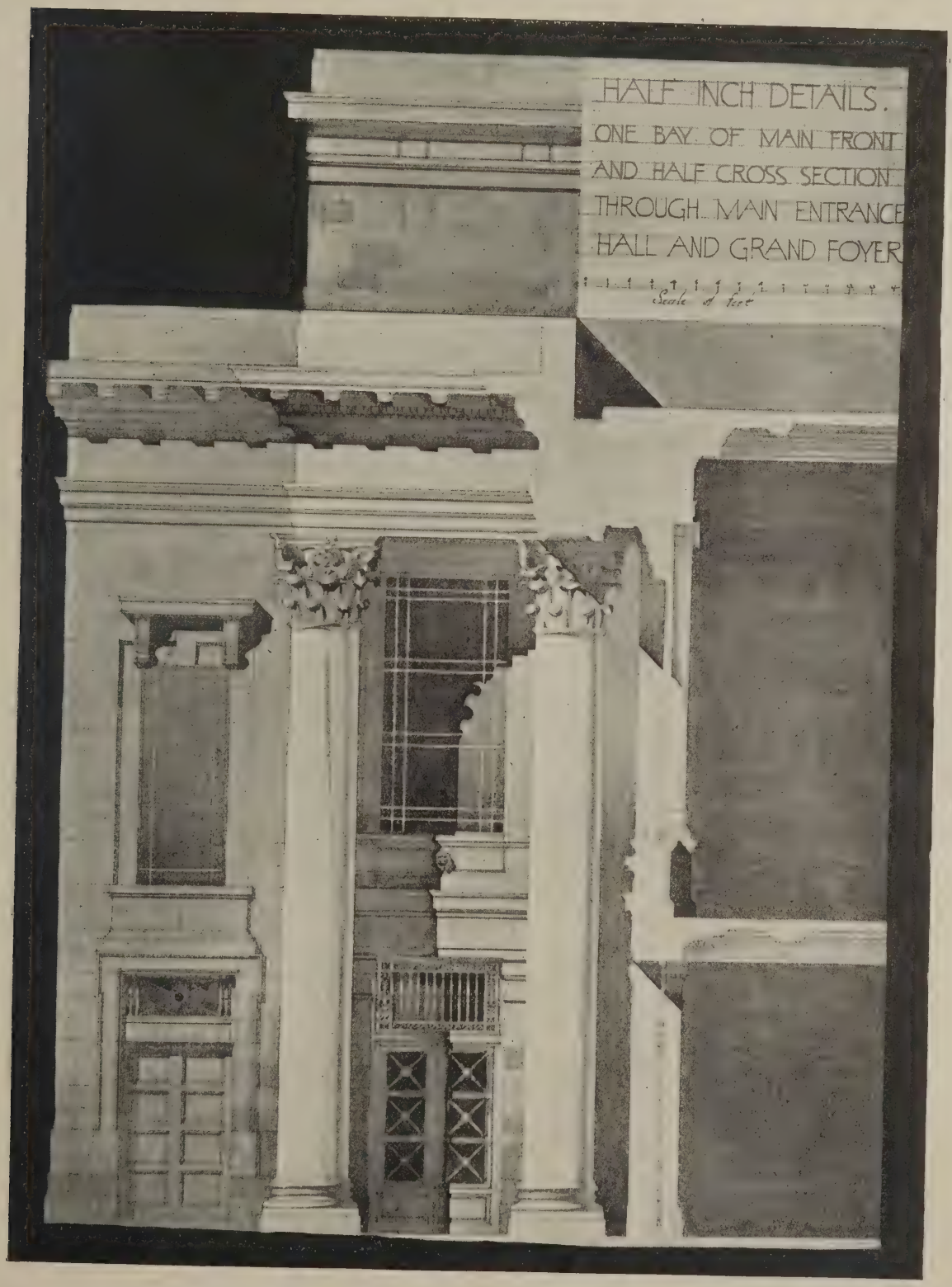
DETAIL OF WINNING DESIGN.

Mr. Fulton's design, which is pla second, shows a hall of circular shape. T orchestra is placed in a recess, and the c ridors are circular. The foyer is of a m detached character than that of the w ning plan. The architectural appeara of the hall is good, but, speaking genera it does not hold together quite so well the winning design.

Mr. E. B. Webber, the winner of third prize, has submitted a design fo hall of a rectangular plan, though small hall, curiously enough, is se circular, as in the selected scheme. T hall shows straight corridors, a very c venient foyer, and satisfactory treatmen the crush hall and lavatories. This des is also in the Classic manner, wit general aspect somewhat resembling

Current Architecture. 40.—War Memorial Halls Competition, Sheffield: Detail of First Premiated Design

E. Vincent Harris, F.R.I.B.A., Architect



This rendered detail of the principal elevation conveys a good idea of the dignified character of Mr. Vincent Harris's design, of which some description is given on page 243. The colonnade would be more effective were it held in by a solid mass instead of ending, as it were, "in the air."

the winner, the colonnade, however, ing more successfully treated.

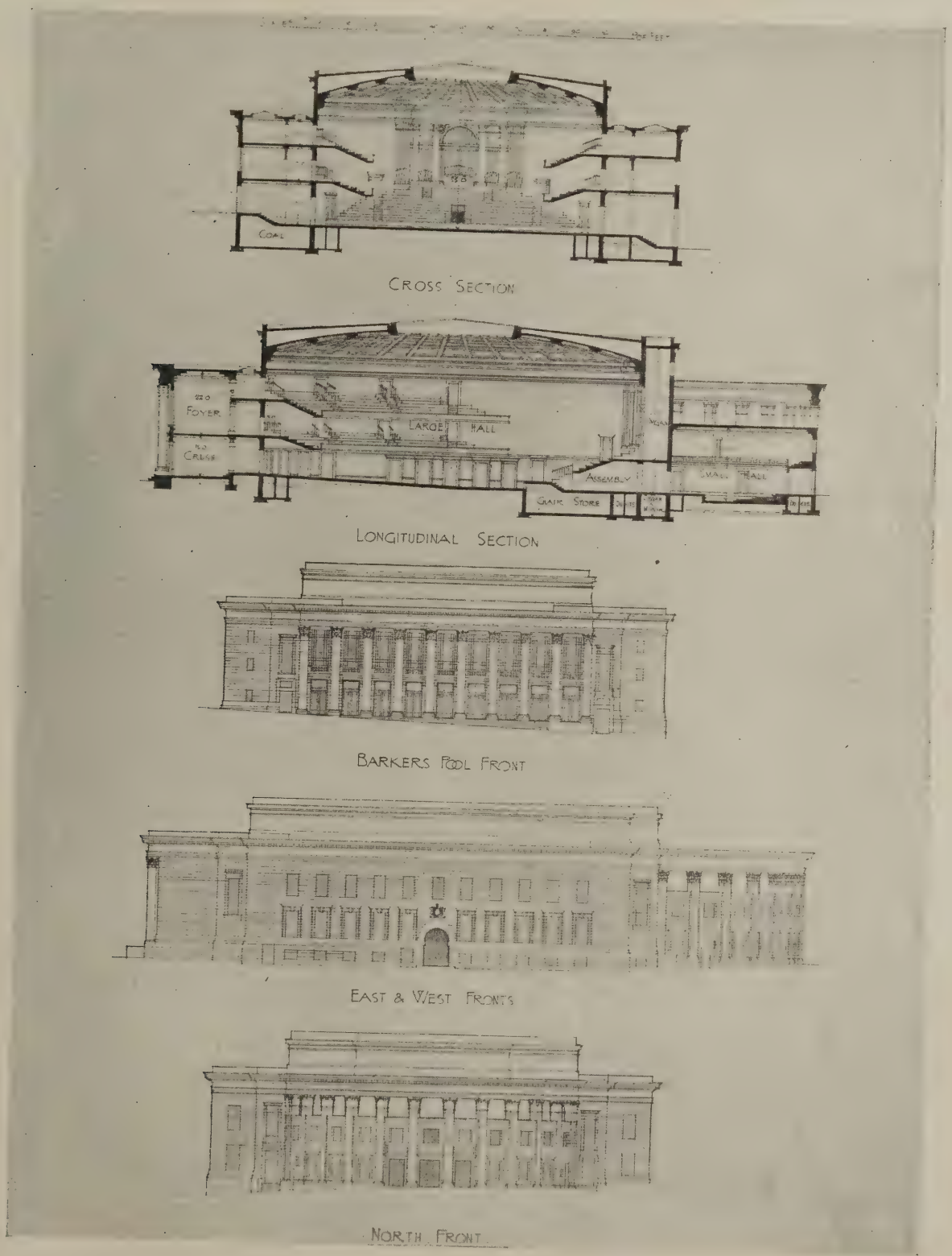
The fourth prize is won by a design for a ilding which is somewhat similar to the her Hall, Edinburgh, submitted by Mr. onard H. Thompson, who was a mem- r of the firm of architects responsible for t well-known building.

The assessors were Sir Aston Webb, R.A., F.R.I.B.A., and Mr. F. E. P. wards, Sheffield City Architect. All the igns submitted will shortly be on public ibition in the Mapping Art Gallery, effield.

Weekly Housing Report

New housing schemes submitted to the Ministry of Health during the week ended August 21 numbered 49, bringing the total number of schemes submitted to 10,956, comprising about 74,000 acres. The schemes approved now number 7,727, and comprise about 53,500 acres. Sixty-one lay-out schemes were submitted and sixty-two approved during the week, bringing the total number of lay-outs submitted to 5,710, and the number approved to 5,063. House plans representing 1,911 houses were submitted, and plans for 3,164 houses approved. The total number of houses represented in all the plans now submitted is 249,217, and in the plans approved 234,218. During the week tenders were submitted for 2,804 houses. Tenders for 2,544 were approved, bringing the total number of houses in tenders submitted to 157,148, and in tenders approved to 141,026. Contracts have been signed for 90,802 houses.

Plans of 17,593 "subsidy houses" have been approved. The free grants which will be paid by the Government to those respon-



SHEFFIELD WAR MEMORIAL HALLS COMPETITION: SECTIONS AND ELEVATIONS OF FIRST PREMIATED DESIGN. E. VINCENT HARRIS, F.R.I.B.A, ARCHITECT.

sible for getting these houses built will amount to upwards of £4,250,000. The total which has been made available by Parliament for grants is £15,000,000. The object of the Government is to get the houses built as soon as possible, and therefore a definite period of time is fixed within which the houses must be finished. When the Ministry of Health Bill now before Parliament becomes law, the time allowed for the completion of "subsidy houses" will be up to December of next year. The amount of grant for an ordinary house now averages about £250. Up to date nearly 1,000 houses have been completed, and the Ministry of Health have actually paid £181,253 6s. 8d. in respect of 882 houses. The grants are paid immediately the certificates of completion have been verified.

The L.C.C. and the Building Trade

The London County Council have investigated a number of trades with special reference to (1) the training of boys, or girls, as the case may be, desirous of entering the trades; (2) the further education, both general and technical, of persons already employed in the trades. The trades in question are:

(i.) The building trades.
(ii.) The printing trades.
(iii.) The engineering and metal trades.
(iv.) The optical instrument trade.

With regard to the building trades, the investigation included a detailed analysis of the number of persons employed in the building trades. The figures examined were decisive that the number of London boys entering the skilled branches of the building trades is very small, these branches of the trades being recruited almost entirely from the provinces. The training of the London building trades is obtained in the provinces at from fourteen to twenty-five years of age, and there is considerable migration to London at about the age of twenty-five, large numbers of young men from the provinces shutting out the London boys. The two principal reasons for this were stated by experts to be the decay of the apprenticeship system, and the value of the working space available in London. On the latter point there was a consensus of opinion that London employers could not afford to have boy learners in their works to the exclusion of profit-earning adults, and that the London building trades called for highly specialised skill. It was felt, therefore, that the Council should, at the outset, direct its efforts to training those likely to become in the future the better-class artisan or foreman, leaving the question of training the ordinary hands to be dealt with later. The principal proposals considered were as under:

(i.) An apprenticeship scheme put forward by the Institute of Builders and the London Master Builders' Association.

(ii.) A report of the London Association of Master Decorators.

(iii.) Proposals for the reorganisation of the Building Department of the Northern Polytechnic.

(iv.) The institution of a building trade school at Hammersmith.

(v.) The formation of consultative committees in connection with the building trades.

As regards (i.), the Councils of the Institute of Builders and the London Master Builders' Association put forward a scheme, of which the underlying principle was a system of premium apprenticeship, but they were not prepared to make any variation in the scheme to allow of apprentices attending half time at day technical schools, or of the substitution of scholarships with maintenance grants for premiums payable to the employer. The London Authority was therefore unable to adopt the scheme, but it informed the Councils that it was prepared to co-operate in a scheme for training boys at technical schools on two or more afternoons a week, and to arrange suitable classes and instruction.

As regards (ii.), the London Association of Master Decorators proposed that day schools should be established for youths from thirteen to eighteen years of age, the schools to be confined exclusively to those intending to follow the trade, that evening classes should be held on three days a week during the months from October to February for improvers in the trade between the ages of sixteen and forty-five, and that facilities should be given by employers to improvers attending evening classes for "time off" to attend one afternoon class a week in colour studies, without diminution of wages. The Association expressed the view that it was desirable to train fifty boys annually, but that the provision of the evening classes might be deferred until a suitable supply of youths had been trained in the day schools. The Council adopted in the main the proposals of the Association, and is training thirty boys at the Brixton School of Building, and twenty-five at the Northern Polytechnic. The Association has agreed to assist the Council in placing these boys with reputable firms on an approved scale of wages for a period of three years, and facilities for afternoon and evening classes are afforded whenever a suitable number of applicants is forthcoming.

As regards (iii.), the Council at that time conducted a Building Trade School at the L.C.C. Hackney Institute. It was decided to transfer this building school to the Northern Polytechnic. The Northern Polytechnic now provides a junior day technical school for boys, and evening classes for adult employees in the building trades. Senior day technical courses are contemplated. The junior day technical school is general in character during the first of the three years, with specialisation in the second and third years in one of the following trades:

(a) Carpentry.
(b) Plumbing.
(c) Painting and decoration.
(d) Masonry and bricklaying.
(e) Architectural drawing and surveying.

As regards (iv.), an analysis of the population in the three areas principally concerned with the building trades showed the number of persons employed in the trades to be, approximately, as follows:

(1) West London, over 20,000.
(2) North and North-East London, over 20,000.
(3) South-West London, over 30,000.

The policy of the Council is to make the three institutions—the Hammersmith School of Building, the Northern Polytechnic, and the Brixton School of Building—centres for these three areas. The two latter institutions are already in exis ence: the Hammersmith School of Buil ing was about to be established by conver ing the premises used as the Hammersmi School of Arts and Crafts, but the proje had to be suspended on the outbreak war. It will be resumed as soon as pra ticable. The school is designed to co prise (a) a day school for boys intendi to enter the building trades, (b) evenir classes for improvers and others alrea employed in the trades.

As regards (v.), the Council decided establish at an early date consultative co mittees for the following:

(1) Painters' and decorators' work.
(2) Plumbers' work and gas-fitting.
(3) Carpentry and joinery.
(4) Brickwork, masonry, and plasterir
(5) Architecture.

These consultative committees would ha been established following on the res of the investigation referred to had not t war intervened. The consultative co mittees will be established in due cour when building operations have resum their normal phase.

Trade and Craft

Electric Fires and Vacuum Cleaners

Two illustrated pamphlets, one deali with art metal electric fires and the ot with electric vacuum cleaners have be sent us by the General Electric Compa Ltd., of 67, Queen Victoria Stre London, E.C. The pamphlet on metal electric fires gives particulars o choice selection of designs, suitable every room in the house, and finished hand-hammered antique copper a oxidised copper, satin finished. T dimensions of the fires range from ab 16 in. high by 12½ in. wide, by 10 in. de of from 1,500 to 2,000 watts, to 20 in. hi 12½ in. wide and 11½ in. deep, of fr 1,500 to 3,000 watts. The vacuum clea the subject of the other pamphlet, has r definitely replaced the old-fashioned d pan and broom in all up-to-date est lishments, and where the machine electrically driven there is the advant that only one person is required operate it with complete facility. The f types of machine illustrated have withst the strict examination and tests of engineers of the company, and designed to meet every need.

Anti-Hydro Concrete Floors.

It would be carrying coals to Newca to expatiate on the economic value of crete to readers of this Journal. C crete, to be of full value to the builde making up for the long suspension of operations, must be good conc Happily for all concerned the hit-or-r method of mixing concrete in gen practice is becoming a thing of the p The haphazard method of throwing gether cement, sand, and stone, and ir criminately adding water till the re became of a soupy consistency that v easily into the forms, is now becon obsolete.

Among the pioneers in the productio super-concrete was Dr. Thomas Stillr of Stephen's Institute. Dr. Stillman s fifteen years in research work with P land cement, and was the first to adv the theory and to put the theory into p tice that the water content of con must be properly regulated.

By developing a process for neutrali calcium chloride and using it in the mi

IMPORTANT TO ARCHITECTS

You can get ahead AT ONCE WITHOUT DELAY by adopting Reinforced Concrete on the Kahn System

Because we have a good stock just now of all sections of our reinforcements and a highly expert staff of designers

Therefore, write us to-day and we will explain what can be done with your building

The Kahn System of reinforcement is the most extensively used in the world :: ::

90% of modern multi-storey factories are being built to-day in Reinforced Concrete :: ::

THE
TRUSSED CONCRETE STEEL CO. LTD.
52 Truscon House, Cranley Gardens, South Kensington, S.W. 7

Works: TRAFFORD PARK, MANCHESTER

H MUNDY

REDPATH BROWN & Co. Lt.
CONSTRUCTIONAL ENGINEER

WORKS AND STOCKYARDS

LONDON
Riverside Works.
East Greenwich S.E.

MANCHESTER
Trafford Park.

BIRMINGHAM
Office 47. Temple Row.

EDINBURGH
St Andrew Steel Works.

NEWCASTLE-ON-TYNE
Milburn House.

GLASGOW
Pinkston.
Office 19 Waterloo S

London City Office :- 3. LAURENCE POUNTNEY HILL E.C.4

vater, Dr. Stillman was able to reduce the uantity of water used from 40 or 50 allons to 18 or 20 gallons for a cubic yard. 'hrough the activity of the compound he ad developed he was able to hydrate proerly the cement crystals in the mix, hereas the old practice with the excessive uantity of water had given but a 40 per nt. hydration of the cement in the mix.

Thus Dr. Stillman, working in conjuncon with Mr. Hasling, another chemist, ith practical building experience, was ble to produce, as early as 1904, a dense lid concrete wherein all the colloidal posibilities of the cement were brought into tivity, and evaporation in the concrete as brought to its irreducible minimum.

In the past decade the advancement of ncrete construction has been slow but re. The American Concrete Institute s done some good research work in this ld. Professor Duff Abrams has brought me telling proof in his 50,000 experients to show that it is absolutely vital regulate the water content of concrete. his theory of *finis modulus* Professor rams has shown how, by properly ding the sand and the stone aggregate, l determining the quantities of the dry terials and the water by plotting a curve l casting an equation, an absolutely se and solid concrete may be produced. 'he cost of producing concrete accordto the theory of *finis modulus* is rather essive. In the States the experience been that the most practical and nomical method of producing a good est concrete, fit for the purpose for ch it is to be used, and that will pern its function for years, is to introduce agent which will not weaken the cone nor its reinforcement, but will carry icient water through the mass of the nary mix to hydrate properly the ent therein.

rom an artistic standpoint concrete is coming into its own. In America Mr. 1 J. Earley, the sculptor, of Washing- is doing excellent work in producing cast concrete for the district parks. George Innes, jun., the painter, has uced some remarkable work in con- for his own estate. His casting of e Whirlwind," by Mr. Jonathan Scott ley, with the slim and graceful lines e figure and the diaphanous folds of veil floating out in billows, gives an of what may be achieved in æsthetic rete. It will be recognised that in the nomical production of good concrete rn machinery is a vital necessity, and eadiness with which the architects and eers of the United Kingdom make use y aids to construction once they are ughly convinced of their merit is a omen for the speedy and thorough bilitation of the building situation in ountry.

THOMAS MOORE.

. Frederic Coleman, of the Adamite pany, Regent House, Regent Street, on, W.1, who are English agents for Hydro, states that Anti-Hydro has used in America for fifteen or sixteen that he brought it to England last and that it immediately attracted from the extraordinary results which obtained by using it. At that time ly extensive job which had been done he use of Anti-Hydro was a big reg wall for Messrs. Selfridge. Since Messrs. Selfridge have put Anti floors in their big garage and warenear Paddington Station; the n General Omnibus Company began it in a number of different ways; the American Oil Company, who have large building programme for the next few years, began to use it extensively, and had remarkable results with it; the General Electric Company have used it; and large orders have been received from many other important business firms.

Anti-Hydro, Mr. Coleman adds, is easy to use. One merely puts one gallon to every ten gallons of water with which the concrete is to be gauged. No stirring or special mixing is required, nor is exact measuring a necessity. He claims that the concrete resulting from the use of Anti-Hydro is not only dustless, waterproof, greaseproof, oilproof, frostproof, and acid-resisting, but it is of an adamantine hardness, which will not flake nor rut nor crack, and seems to have wearing qualities that are unique. Anti-Hydro floors laid fifteen or sixteen years ago in America show no sign up to date of any sort of disintegration or wear.

Canada and Portable Bungalows.

H.M. Trade Commissioner in Winnipeg reports to the Department of Overseas Trade that present conditions in Western Canada are eminently favourable to the sale of sectional bungalows provided that they are suitable for local requirements. Building materials in Western Canada are scarce and very high in price, and the demand for houses is urgent. Whilst most residences are constructed almost entirely of wood, this material is so high in price at present that a brick building costs very little more and is considered more permanent. Labour is not plentiful in the building trade, and this factor would favour a bungalow shipped in a "semi-ready" state. Building plots in Western Canada usually have a frontage of either 25 ft., 33 ft., or 50 ft. The Trade Commissioner, whose address is 610, Electric Railway Chambers, Winnipeg, would be glad to receive from United Kingdom manufacturers of sectional bungalows their catalogues, with full particulars, specifications, plans, prices, and agency terms where agents in Canada are required, and to answer any enquiries regarding the Western Canadian market.

Competitions Open

Wakefield.

Cenotaph to the memory of the Fallen. Apply Town Clerk.

Liége.

Monument to commemorate the defence of Belgium against the German invader. One million francs has been subscribed for the project. Apply M. Léon Maréchal, Bureau des Beaux Arts, Hotel de Ville, Liége, Belgium.

York Minster.

Memorial to officers and men of the K.O.Y.L.I. in York Minster. Cost not to exceed £2,500. Premiums: 1st, the commission, and £100 to be divided amongst four competitors. Assessors, Messrs. Walter Tapper, H. V. Lanchester, and Robert Atkinson. (For full particulars see our issue of July 28.) Drawings to 34 and 35, Bedford Square, W.C.1, by September 14.

Lille.

Extending and beautifying the city. Entrance fee, 300 francs. Available for premiums, 128,000 francs. Apply the Mayor. Competition closes October.

Burton-on-Trent.

The Governors of the Burton-on-Trent Endowed Schools are prepared to receive designs for a new high school for girls at Burton-on-Trent. Architects wishing to compete should send their names to the assessor, Mr. Herbert T. Buckland, F.R.I.B.A., Norwich Union Chambers, Birmingham, not later than September 6, together with a cheque for one guinea, which will be returned upon the receipt of a bona-fide design. The conditions will be sent out as soon as possible.

Enquiries Answered

Interior Decoration in 1700.

F. R. (Clapham) writes: "Would you kindly inform me in what manner the walls of reception rooms, etc., would be treated in 1700 in the better class of house?"

—In the year 1700 the internal finish of rooms was generally Renaissance wood panelling in broad simple panels, with bold mouldings, the panels projecting in advance of the stiles. Oak might be used, but unless the building was of considerable importance very little carving would be introduced. In important buildings festoons and flowers were placed at points of interest, such as the overmantel. A great deal of panelling in pine painted was used in houses of lesser importance. The usual treatment in either case was with basemould or skirting panelled surbase surmounted by a dado rail, and large single panels above reaching to below the wood cornice of simple classical profile. The plastered ceiling was usually plain, but might be divided by soft mouldings into simple panels around a central circular or oval wreath of modelled fruit and flowers in high relief. The fireplace opening would probably have a plain marble wave section jamb moulding. Admirable examples of this period may be seen in Wren's work at Hampton Court.

Roman Brickwork.

READER, Surrey, writes: "Can you give me any information with regard to the development of Roman brickwork in England, and tell me where the best examples are to be found?"

—Evidences of Roman brickwork are spread all over the country, but Essex and Kent especially can show hundreds of churches into which Roman bricks have been built subsequently. Brick burning and building does not appear to have been practised prior to Roman occupation, although existing remains prove that the art of pottery was not unknown. Roman clay working was not confined to the typical 2 in. flat tile, but included fine terra-cotta work such as may be seen in Colchester Museum. At most of the Southern Chesters are found examples of the two Roman methods of employing brick construction—*Structura cæmenticia*, a mass of rubble concrete faced with stones, with banding courses of two or three flat tile bricks and *Opus testaceumi*, in which the facing and arch work is brick. The most important British-Roman brickwork is at Dover, in the Pharos Tower, and at St. Mary's-in-the-Castle. St. Alban's Abbey, commenced about 1077, was largely constructed with Roman bricks from Verulam. Colchester Castle is also largely built of Roman bricks, and shows in the courtyard how effectively the herring-bone band could be constructed in tile. Brickmaking as an industry and as an art was not practised from the time of the Roman evacuation in 420 till 1260, the date of Little Wenham Hall, Suffolk.

The Week's News

(Concluded from page 228)

Hinckley War Memorial.

Hinckley U.D.C. have decided to accept part of the Castle Hill grounds as a site for the proposed war memorial.

Housing at Sowerby Bridge.

Sowerby Bridge U.D.C. have received sanction to borrow £10,952 to build its first thirteen houses.

New Racecourse Stand at Lingfield.

The Godstone R.D.C. have approved plans of a new silver ring stand at Lingfield Racecourse.

Stafford Housing.

The R.D.C. have decided to apply to the Ministry of Health for sanction to a loan of £14,000 for the erection of houses.

Housing at Wrexham.

Wrexham T.C. have applied to the Public Works Loan Commissioners for a loan of £100,000 for the housing scheme at Acton Park.

Housing at Rushden.

The U.D.C. have received sanction to borrow £35,711 for the erection of forty houses on the Newton Road site.

Housing at Salford.

About 700 houses are to be erected at Salford, some of which will be ready for occupation in two or three months.

Manchester Housing.

Work has commenced on 336 houses at Manchester. The houses ultimately to be erected by the Corporation number 5,271.

New Chapel at Black Torrington.

The foundation stone has been laid of the new chapel at Black Torrington. The cost of the new building is estimated at £1,300.

Housing at Claygate.

Sixteen out of a total of forty houses proposed to be erected by the Esher and Dittons U.D.C. have been sanctioned by the Housing Commissioner. Work has commenced on the foundations.

Llandudno Housing.

The erection of twenty working-class houses has commenced at Llandudno, and the Council are negotiating for the purchase of additional land with a view to further building.

Oldbury Housing.

The first two houses erected by the Oldbury U.D.C., situated at Darby Road, Langley Green, have been opened. These are the first of 1,325 houses to be erected in the district.

Cockermouth Housing Scheme.

Lay-out plans of the Brigham Road site have been passed by the Cockermouth R.D.C. Forty per cent. of the houses will contain living-room, scullery, coal-house, larder, three bedrooms, and bathroom, and sixty per cent. will have similar accommodation with the addition of a parlour.

Leyton Housing Scheme.

The first sod has been cut in connection with the housing scheme of the Leyton U.D.C. for the Barclay Park Estate. The houses will cost £1,000 each, exclusive of land, drains, and roads. The whole scheme for Leyton, comprising 500 houses, will cost £50,000.

Chailey Housing.

The Ministry of Health have approved the following building sites: Lane End Common, Newick; Mill Lane, Chailey; Rushy Green, Ringmer; Novington Lane; Cooksbridge Station; South Malling Without; Ditchling and Barcombe. Sanction has also been given for the borrowing of £464 for three sites, viz.: Lane End Common, Newick (£69), Rushy Green, Ringmer (£185), and Cooksbridge Station (£210).

New Cold Storage Building at Glasgow.

A large new building which has been opened in Glasgow by the Union Cold Storage Company contains nine floors, seven of which are cooled by the direct ammonia expansion system and two by air. The refrigerating machinery consists of two double-acting ammonia compressors, each driven by an electric motor of 150 h.p. and capable of making fifty tons of ice each twenty-four hours. The building is of brick and reinforced concrete.

British Industries Fair.

The British Industries Fair, to be held between February 21 and March 4 next year, which is being arranged by the Department of Overseas Trade, will take place at the White City. An illustrated brochure will be issued in ten different languages, explaining the various exhibits and supplying information calculated to be of use to intending purchasers. The fair will be a purely business enterprise, and the general public will be excluded. Simultaneously, similar fairs will be held in Birmingham and Glasgow.

Langley Housing Scheme.

The first completed houses under the Oldbury Council housing scheme has been opened on the Basons Farm Estate, Langley. The houses form part of a contract for seventy-two, whilst other contracts have been entered into for a total of 208 on the same estate. The loans sanctioned are £7,000 for sites, £15,000 for streets and sewers, and £400,000 for building. The contracts entered into are for two types of parlour and non-parlour houses, and those now opened contain three bedrooms and bathroom, kitchen, scullery, and one large living-room, with a frontage to the road of 27 ft.

Givenchy War Memorial.

The Executive Committee of the Fifty-fifth Division Comrades' Association have accepted the design of M. E. Buisine, sculptor, of Lille, for the monument to the 55th Division to be erected at Givenchy, near La Bassée, the scene of the division's greatest exploit. The Mayor and Municipal Council of Givenchy are giving a site. The monument, to be of best Belgian granite, will be between twenty and thirty feet high, will stand in a conspicuous spot, and will be a landmark from Ypres to Vimy Ridge. On the cross will be the Red Rose and the motto, "They win or die who wear the Rose of Lancaster." The erection of the monument is to be proceeded with at once.

Building Guild and Dilution.

In a report issued from its headquarters in Manchester the Building Guild declares that "true craftsmanship must be revived. There is no reason why building guildsmen should not equal or surpass the triumphs of the mediæval period. But to attain this the National Building Guild must control not only its mature but its immature labour. All technical instruction and training must come under th Guild's jurisdiction. That is our reason amongst many, why dilution must at al costs be rejected. The Guild is the onl possible answer to dilution; it is also th only alternative to the existing capitalis system. But it will fail unless with sel government and wage abolition it als revives the spirit of craftsmanship, whic can only come in good fellowship an mutual aid."

Torquay Housing.

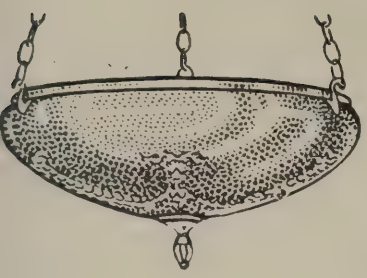
The erection of houses on the Westhi Estate, Torquay, in connection with th Corporation's housing scheme has con menced. The first block being those c the west side of Empire Road leading Westhill Lane. Arrangements are beir made for the immediate erection of furth blocks adjoining Forest Road, and on th road leading from the Tramway Co pany's depot to Westhill. It is understo that the number of houses to be erect forthwith is seventy-five, of the "A" typ The contract price is £960 per house, a the work has been distributed among lo builders. It is also proposed to make early start with the erection of cottages the higher Stentiford's Hill Quarry to p vide accommodation for those persons w will probably be displaced from the Pi lico area.

Commercial Museum in China.

A movement is on foot to establish commercial museum at Chungking, in Province of Szechuan. The propo which is supported by the Chungk Chamber of Commerce, has among objects the assistance particularly Szechuan merchants and the fostering closer commercial relations between province and foreign countries. For museum it is proposed to make as c plete a collection as possible of the ducts of Szechuan, China's largest vince, as well as the products of fore countries. The museum authorities aim to provide information on all mat relating to the trade of Szechuan, an be of service to foreign firms in Chu king, by giving introductions to Chi merchants, by aiding in translation w and by helping to obtain informatio to the trade of Szechuan.

A World's Market in Paris.

The Federation of British Industries undertaken the direct representation Great Britain and the Dominions of Paris "Marché du Monde." The ide establishing a "world's market" in P was conceived in 1910. and after a y work the scheme has now come very c to practical realisation. The site for building is being cleared, and conti for its erection have been pla Already a very considerable numbe American, French, Italian, and other tinental, as well as some British have reserved space in the "Marché Monde" when completed. The ide the promoters is to systematise and tralise international commerce by ere in Paris a great commercial centre which the manufactures of all nation be permanently exhibited under one and therefore readily accessible to b from all countries visiting Paris.



"That's Better!"

Economy is good—and there is no more economical light source than the Mazda Half-Watt type lamp; but economy *plus* glarelessness, even distribution, and visual comfort is infinitely better.

That is the kind of illumination you get when the Mazda lamp is enclosed in a suitable fitting or reflector. The installation of Mazda Half-Watt type lamps and B.T.-H. fittings not only means better illumination, but also better vision, better working conditions, better business and better health.

Lighting advice free.

MAZDA

Gasfilled

Electric Lamps

(Half-Watt Type)

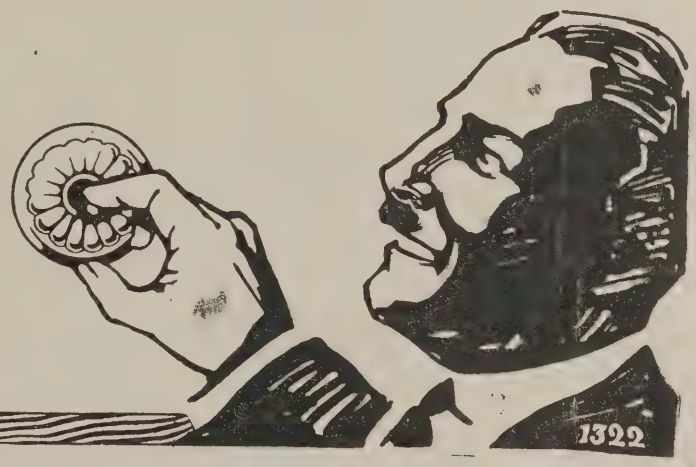
Made in Rugby

The **British Thomson-Houston Co Ltd**

Mazda House, 77, Upper Thames St., London, E.C.4

Branches in all large Towns

Works: Rugby



What do you recommend?

The leading line of its class.

'OLAC' ENAMEL Finishing & Undercoat

'G.P.' GENERAL PURPOSE VARNISH

'SISCO' READY MIXED PAINTS, VARNISH PAINTS

Hall's Distemper

SISSONS BROTHERS & CO., Ltd.

HULL.

Varnish, Paint and Colour Manufacturers.

LONDON LIVERPOOL GLASGOW READING.

V.85a.

CONTENTS.

Edited by PROFESSOR A. E. RICHARDSON, F.R.I.B.A.

Notes and Comments: The Building Trade Troubles; "A Parliament of Architects"; "Eliminating the Architect," 253. Honours for Mr. Ernest Newton; Manchester and the Health Ministry; The Late Mr. E. A. Rickards; Glasgow Housing Exhibition 254

Architectural Causerie: Notable Lighthouses. By Aero 255

The Week's News 256, 277

The Late E. A. Rickards, F.R.I.B.A. 257

From Sculptor to Waiter 261

Mr. G. K. Chesterton on Old Cottages 262

The Protection of Ancient Buildings 265

Pan-American Congress of Architects 266

Presentation to Councillor Stephen Easten 271

Enquiries Answered: Modern Practice in School Design; Baker's Oven for Private Residence; Sawn Laths 271

Correspondence: Sanitation of Theatres 271

Publications Received 271

Department of Scientific and Industrial Research 272

Fire Tests on Concrete Columns ... 272

Glasgow Housing Exhibition ... 276

Trade and Craft: King Edward VII. Memorial Sanatorium; Bulk Storage Installations; Stucco Toned with Colour Aggregates 276

Competitions Open 278

Current Prices of Materials ... ... xvii.

Complete List of Contracts Open xx., xxii.

ILLUSTRATIONS:

Giovanni Battista Piranesi ... 251

Air Views of Buildings. 3.—Buckingham Palace, the Mayfair District, with the Green and St. James's Parks ... 252

The Late Edwin Alfred Rickards, F.R.I.B.A. (from a pencil drawing by R. B. M. Paxton) 257

Sketch from the Book of the A. A. Play, 1909. By the Late E. A. Rickards 258

Design for the Canadian War Memorial. By the Late E. A. Rickards, F.R.I.B.A. 259

Figure on the Usher Hall, Edinburgh. Crosland McClure, sculptor ... ...

The South African War Memorial, Leicester. Crosland McClure, sculptor ... ...

A Fountain in Vienna. From a pencil sketch by the Late E. A. Rickards, F.R.I.B.A. ... ...

The Town Hall, King's Lynn ...

Doorway of 18, Buckingham Street, Strand, Adelphi ...

Architects' Working Drawings. 16.—Typical Flats to be erected by Dunbarton County Council. Joseph Weekes, Licentiate, R.I.B.A. 268

Silver Salver Presented to Councillor Stephen Easten, O.B.E., J.P., by members of Northern Counties' Federation ... ...

Current Architecture. 41.—New Premises for Messrs. Marsh, Jones, and Cribb, Leeds. Crackett and Burns-Dick, Architects ... ...

Plans of New Premises for Messrs. Marsh, Jones and Cribb, Leeds ... ...

DAWNAY DEFINITIONS—6.

PREPAREDNESS.

PREPAREDNESS is being ready for any emergency. It is a sound principle in business. Our purpose here is to tell you we are prepared for your enquiries for constructional material, service and designs. Certainty of satisfaction and promptness of delivery stand ready here for your command without fear of disillusionment.

STOCKS OF British Standard Sections in Joists, Channels, Angles, Tees, Flats, etc.

ARCHIBALD D. DAWNAY & SC Limi

Telephones: Battersea, 1094 (3 lines). Steelworks Road, Battersea, S.W.11 Telegram Dawnay, Bat London.

Telephone: Cardiff, 2557. And at East Moors, Cardiff. "Telegram Dawnay, C

dnesday, September 8, 1920

Volume LII. No. 1340

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

GIOVANNI BATTISTA PIRANESI.

Although Piranesi was careful to see that he was always styled "Venetian Architect," we have no very trustworthy evidence that he ever composed a building except on paper, and such paper plans as he published do not suggest great practical qualities. It is in his etchings of the ruins of ancient Rome that he gives us something at once more rare and more valuable than any ordinary architectural achievement. His great series of prison dreams—the "Carceri d'Invenzione"—has immortalised his fame. Piranesi was born in Venice in 1720. He published his first etchings in 1741. In April, 1757, he was elected a Fellow of the Society of Antiquaries, which is sufficient proof of the esteem in which he was held in England. He died in 1778.

27-29 Tothill Street, Westminster, S.W.1.

Air Views of Buildings. 3.—Buckingham Palace, the Mayfair District, with the Green and St. James's Parks

Here before us lies the heart of the aristocratic "West." Familiar features of the landscape, usually seen in elevation, spread themselves out in the manner of the Ordnance Survey. The wide strip running roughly north and south is, of course, the Mall, with Buckingham Palace and [illegible] Arch at the other. Left and right respectively lie the Green and St. James's Parks.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Vednesday, September 8, 1920

Volume LII. No. 1340

Notes and Comments

The Building Trade Troubles

THE attitude of the building operatives on the dilution of labour is exasperating. It is not therefore entirely without justification. That they should presume to understand their own fairs better than the Government possibly can is cer-inly annoying, but is nevertheless a supposition that is obably founded on facts with which the Government imperfectly acquainted, and to which it does not allow fficient weight. If the Government were more miliar with the history of trade unions, and realised oroughly how long and hard and bitter was the fight st to get them established and afterwards to get them cognised, and what sacrifices were involved in the uggle, there would be a clearer understanding of the rkers' stubborn defence of privileges or advantages—ey would call them rights—so arduously won. That why, at their conference at the Midland Hotel, ndon, last week, the National Federation of Building ades Operatives passed the following resolution: hat in the opinion of this Federation sufficient trainees ve been admitted into the building industry under the ining scheme agreed to by the building trade unions, d we recommend to the various executives of affiliated ons to notify the Minister of Labour that the societies nected herewith will not recognise any credentials m trainees who enter training after September 30, 20." There is no need to say that in this matter we by no means defending the position taken up by the ratives. We are simply attempting to account for with the object of making the situation a little less cure. In view of this resolution, the Government now surely recognise that to persevere on these lines ld be perfectly futile. Some other course must be pted to secure a fairly adequate supply of workers house-building. We suggest for the hundredth e that the only way is to set the building industry rely free from Government restriction and control. t is the first step towards a return to normal condi-s, and it ought to have been taken months ago.

"A Parliament of Architects"

s a short title, this expression, thrown out casually he R.I.B.A. President, has no very distinct advan-over the more authentic expression "Unification mittee." But "Parliament of Architects" is dedly more picturesque. Moreover, "Parliament" e larger and broader term, carrying more weight and ity. True, it has been somewhat discredited by its thorised application to the "Industrial Council for Building Industry," which council, however, as we often said, is not sufficiently representative to justify the superior title. No such narrowness vitiates the "Parliament of Architects," which is comprehensive enough to justify its title. Now that September is here, the sub-committee is no doubt settling down to the important work it has to do; but its report, if the points embodied in it are to be considered with due deliberation, is not to be expected until weeks—possibly months—have elapsed. It has, in the first place, to recommend whether "A," to absorb all the existing societies into one body; or "B," to link them up, is in its belief the better course; or whether there is a *tertium quid* that as yet is nebulous, but may solidify in the course of the committee's deliberations. This vital issue—whether "A is happy, B is not," or vice versa, may take a long time to determine; moreover, the precise content of "A" and that of "B." have yet to be definitely formulated, and that is not the least onerous part of the task imposed on the sub-committee; to whose deliberations we wish the utmost measure of success.

Eliminating the Architect

Taunton architects are built the right way. They are standing on their rights in the matter of housing. Taunton Housing Committee reported their decision that "as the committee possess a fully qualified clerk of the works, an architect's close supervision of all the buildings was unnecessary." But, the report went on, it was now found necessary to insert the names of architect and quantity surveyor in each contract, and "for this purpose interviews had taken place with the architects to endeavour to arrange terms for the practically nominal work for the large bulk of the buildings following the first blocks." But the attempt to effect this compromise met with no success, "the architects saying they would rather stand aside than take reduced fees." This offer by the architects "to stand aside" was accepted by the committee, because "paying the scale fees would not only be unnecessary, and a squandering and waste of public funds, but would also entail an additional public indebtedness for the next eighty years." It was decided, therefore, to ask the Council to direct their two sanitary surveyors to supervise the work. To this the Council agreed; but they were informed that, to save time, the Ministry of Health had been asked to sanction the arrangement, and had not replied. And no wonder! for the Taunton R.D.C. have raised a fearsome bogey of a sort that the Ministry always find it difficult to lay; and this R.D.C. is by no means alone in begrudging the architect his fees, or in trying to get him to take less than the scale allows, which is little enough. A scale of fees issued last September by the Ministry of Health so graduates them on "reduction-on-taking-a-quantity" lines as to put quite out of court any further attempt at

whittling away. When you get as low down as "1½ per cent. upon the remainder" the fee will neither enrich the architect nor ruin the ratepayer. Certainly the architects were quite justified in declining to haggle, and it is surprising that even a rural district council should have had the effrontery to try to beat them down; but the question of fees is relatively unimportant. What is really significant is the low regard in which evidently these rural councillors hold the architect and his work.

Honours for Mr. Ernest Newton

Some slight tinge of regret is mingled with the pleasure that all architects feel at the honour which the King of the Belgians has bestowed on Mr. Ernest Newton. The award will remind them, however, that there is a British honour which Mr. Newton has richly deserved, but has not yet received. Considering the distinguished position he held, as President of the R.I.B.A. at the outbreak of the war, the signal services which in that capacity he rendered the profession and the country, and the energy and skill he brought to the assistance of the Government when they were in sore need of the advice which he of all men in the kingdom was best qualified to give, the entire profession felt confident that such self-sacrificing devotion must surely be recognised by the bestowal of a knighthood at least. Instead, an O.B.E. was offered—a ridiculously inadequate honour for a Royal Academician who had been twice elected President of the Royal Institute of British Architects, and had upheld the best traditions of that office during the most critical period of the great war. Among those traditions generous and graceful hospitality has been always prominent, and that Mr. Newton took every opportunity for its exercise among the Belgian architects who came among us as refugees is attested by King Albert's bestowal upon him of the Cross of Officer of the Order of the Crown.

Manchester and the Health Minister

Manchester contractors are indignant with Dr. Addison. They challenge his statement in the House of Commons on August 11 (which we duly reported at the time) that in his opinion "there was sufficient evidence to show there was a combine against the Ministry to force up prices" for housing. This charge the contractors believe to be refuted by the fact that in the event of any savings accruing on the agreed price, such savings would be divided between the municipality, the contractor, and the operatives. This is a point on which it would be easy to lay too much stress. It is not proof positive, although the contractors, conscious of their entire good faith, may be exonerated for investing it with that quality. They are sounder in the contention that Government interference with building is having a most unhealthy influence on the industry. They contend, for example, that by shifting on to local authorities the onus of restricting building, the Government set up a train of ill consequences which probably it did not foresee. Corporations are unwilling to exercise the powers thus granted them. To restrict building is to restrict the rates; while if under one authority the restrictions are tight, and under its neighbour they are loose, workers will be attracted from the former to the latter, so that where nothing but housing may be done there will be few or no men to do it. Contractors also have been attracted to work other than that of housing. Small blame to them if they realise more clearly than the Government that industrial building—such as extensions to works, mills, and warehouses—is as necessary as the erection of small dwellings. That such work also pays better may be cheerfully admitted, but that fact does not vitiate this argument; nor is the companion to it that men accustomed to work on the higher class buildings are not disposed to turn their attention housing—affected by the detail that they are oft induced by the higher rates of payment to take wo under employers to whom cost is of less moment th priority. One has heard of gigantic firms offeri most extravagant wages to attract men to their worl This iniquity, the defenders of the Manchester contr tors advise, should be stopped by making it illegal firms to attract labour to other classes of work. C earnest desire that the plague may be stayed does blind us to the futility of this proposal. We are co vinced the way out of the present difficulties and disco tents is not to be found by imposing further restrictio but by setting the industry entirely free to work out own salvation. With the last sentence in the article the "Manchester Guardian" on which these observatio are based we agree without hesitation—namely, "th the building industry, when given a fair chance, wo quickly increase the production of houses." But "fair chance" depends mainly on absolute freedom fr Government control. Now that the facts have been more clearly before Dr. Addison, he will no doubt w to withdraw his insinuation that a builders' ring in Ma chester is forcing up prices—a charge that appears have been based on a pretty complete misapprehens of the conditions prevailing in the Manchester district

The Late Mr. E. A. Rickards

An announcement of the lamented death of M E. A. Rickards was all that could be given in last wee issue. This week we are printing a special mem with a few characteristic drawings by this fin imaginative artist, whose untimely death is speci deplorable at a moment when men of vision—and a n of vision he undoubtedly was—are more than e needed for the redemption of architecture from the cr commercialism that must always be its especial men in a period of feverish reconstruction. How great a l architecture has sustained in his passing will be m clearly and more poignantly realised on the publicat of the volume of his collected drawings which is being prepared, and which will appear early in present autumn. Many of these relate to the embell ment of architecture. The graceful fancy, the ve and freedom, boldness and fluency of his decora designs must win him, short as his career has been, enduring reputation as an artist of striking individual fertile imagination, and a high degree of technical s It was deeply gratifying to him to know that his ta was so widely esteemed as to warrant this collectio his work; and what was intended as the crown of career must now serve as his monument!

Glasgow Housing Exhibition

"Let Glasgow flourish!" Its Housing and He Exhibition, which opens on September 15 and closes October 9, should help enormously towards the fu ment of this aspiration. Judging from the prelimi list of entries which we publish on a later page, it is go to flourish exceedingly. Our publishers have take stand, at which all our publications—books, portfol and periodicals—may be examined, and where representatives will be glad to afford all possible infor tion on subjects within our scope. Visitors are assu of a cordial and courteous welcome, and in no insta will they be pressed to purchase any of the publicat which they may freely examine. The service which aspire to render the Profession and the Industry of bu ing does not begin and end with mere "salesmansh considerations.

Architectural Causerie: Notable Lighthouses

THERE is a fine lighthouse at St. Catherine's Point in the Isle of Wight, at the base of the shifting cliffs. It forms one of a group of three interesting buildings. The first is the wer erected by Walter de Godyton in 1323 as a enance for purchasing wine intended for the Abbey of etley, that had been cast away in the wreck of a fleet nveying produce from Picardy. One can still trace e outlines of the ancient chapel, and note the line of e roof against the octagonal tower. In 1785 a new ghthouse was begun near by, but never completed, for the time the brickwork had reached to a height of enty feet or so it was discovered that owing to the ists enveloping the hill at certain seasons the light ould never be seen. The present lighthouse of St. atherine's stands closer to the shore, and forms the ief (and not an unpleasant) feature of a curious group Victorian Gothic buildings. This tower was origilly a hundred and twenty feet high, with foundations aching to the solid rock; but owing to landslides in the cinity it was found expedient to lower the upper part; nce the stunted effect of the tower, as though some ant coastguard had closed his giant telescope and t it on end. St. Catherine's lighthouse was built om the designs of Walker and Burgess, of London, in 38.

* * *

There is an excellent lighthouse tower on the western n of Ramsgate Harbour, the work of Sir John Rennie, whom the task of fashioning many of the nineteenthntury harbours of Great Britain and Ireland was signed.

* * *

The entrance to London from the Channel is as well hted as Portland Place. There are the two lights at argate, the red one on the Doric column and the green the end of the pier. There is the Chapman, appearing wade through the waters like one of the Martians scribed by Mr. Wells. There are the twin towers of culver:

"Both tall and upright and just equal in height,
And Trinity House talked of painting them white."

d Leland described them as "two goodly spiring eples."

* * *

One of the most interesting of lighthouses on the East ast is that known as Landguard. It is best described a weatherboarded tower, rather like an old post mill ached to a weatherboarded bungalow. The effect of composition, resplendent in white paint, is distinctly asant, and affords content to many a longshoreman account of its sailorlike character. Such things are ong the gems of architectural engineering, and from standpoint of form alone could not be improved.

* * *

From Cornwall to Rothesay Castle the West Coast is ip like a ballroom. There is the excellent lighthouse Godrevy, warning shipmasters of the presence of "the n and his Man." There are the lights of the Welsh st, including the lighthouse at Holyhead (another of John Rennie's works), and that on the South Stack, egulate the pace of the express packet boats to and n Ireland. And so by the West Coast sea route we ceed to Scotland, which brings into the discussion career of Robert Stevenson.

* * *

erhaps the most famous lighthouse in Scotland is that ding on the Bell Rock, the need for which did not engage the attention of the Commissioners of Northern Lights until the beginning of the nineteenth century. This particular problem was difficult to solve, and many schemes were looked into before the approval of the Board was obtained. A cast-iron tower standing on four legs was drawn by a Captain Brodie, and other schemes were submitted by the dour old Stevenson and a Mr. Dowrie. When the Commissioners approached the elder Rennie to inspect the rock, the architect-engineer unhesitatingly suggested a stone tower on the Smeatonian system. Rennie prepared the plans for the tower, and the erection and superintendence of the works was entrusted to Robert Stevenson, who had begun his career as a tinsmith and later on had married the daughter of a lamp-maker of Edinburgh, who had the charge of caring for the lamps and reflectors of the Northern light-towers. The works started in 1807, and after many delays the light shone forth for the first time in February, 1811.

* * *

Of the lighthouses of the United Kingdom, those of the Bishop's Rock, built by Alexander, the Eddystone, the Skerryvore, and the Bell Rock are the most exceptional specimens of architectural engineering in the world, combining grace with structural efficiency, and in every way approaching the true spirit of design attained at the height of Hellenic power.

* * *

As I pen this gossip, I think of all the care given by the old-time authorities to the lighting of the narrow waters round these shores. A model of the Alexandrian pharos stands on my desk, with a metal holder for the burning of incense to remind me of the iron brazier lights of the past. I have memories of the North Foreland lighthouse, with its coastguard station and accommodation for officers and men and the shelter for the boats, and recollect that the pages of my sketch-books hold sketches of every type of tower, from the Doric column at Shoreham to details of Rennie's tower at Ramsgate. Eighty years ago there were but thirty lighthouses in Great Britain, and as recently as 1856 there were more than four hundred and seventy in the United States.

* * *

Reynaud, the author of "Memoirs sur l'Enclairage et les Balises des Côtes de France," who published his work in 1864, gives several illustrations of lighthouses. Inspired by the tradition of Smeaton, he asserts that a circular plan is the only type permissible for a lighthouse at sea, and that this form is desirable for those standing high on land, but he does not proscribe an octagonal tower for the latter situation. Reynaud goes on to say that there were no important lighthouses until the period of the Renaissance; and he attaches especial importance to the one at Genoa, which, built in the sixteenth century, corresponds to the proportions of an Italian campanile, and rises by two stages to 206 ft. in height.

* * *

The most splendid architectural lighthouse of the past is without doubt the Phare de Cordouan, at the mouth of the Gironde. This tower was begun in 1584 and completed in 1610, with the light 120 ft. above the highest tides. It was rebuilt at the time of the Revolution by Teulère, but shows no improvement in style on the original structure by the architect De Foix.

AERO.

(To be concluded.)

The Week's News

Architect's Change of Address

Mr. H. S. East, A.R.I.B.A., has removed to 12, Hart Street, Bloomsbury, W.C.1. Telephone: Museum 5685.

New London Commercial Offices

New commercial offices, to be called Cary Buildings, are to be erected on the site of the Hall of the Ironmongers' Company in Fenchurch Street, London. The Hall of the company, which was badly damaged in an air raid, has been pulled down.

R.N.A.S. Memorial

It is proposed to inaugurate a memorial to the officers, warrant officers, petty officers, and men of the Royal Naval Air Service and the Royal Naval Armoured Car Division who fell in the war. The memorial will take the form of a row of cottages, with an inscribed tablet, on the Enham Village Centre estate for disabled ex-Service men at Andover, Hants.

Lord Astor's Office

The Astor estate office, Victoria Embankment, which has been placed on the market, was planned by the late Mr. John Loughborough Pearson, R.A., designer of Truro Cathedral. Assistance was also given by other artists, including Sir George Frampton, R.A., who did much of the interior decorations, and Mr. J. Starkey Gardner, who designed the wrought-iron railings.

New Government Offices for London

New Government offices are to be erected between the Strand and Waterloo Bridge opposite and in architectural keeping with Somerset House. The scheme, which will be carried out by the Office of Works, will result in the pulling down of the whole block of buildings between the Strand and Waterloo Bridge on the south-western side, and the widening of the Strand to 85 ft. between Wellington Street and Savoy Street.

Manchester Market Extension

The Corporation propose to spend £11,425 on the extension of the Smithfield Market, which was opened one hundred years ago. It is proposed to acquire about 812 square yards of land in Tib Street, adjoining about 880 square yards already used for market purposes, thus providing, when the scheme is completed, a new covered market. At the present time there is a covered area of 16,000 square yards, and an uncovered area of 5,000 yards, making approximately five acres of market space.

South African Architect's Suicide

Mr. J. M. Solomon, the architect of Cape Town University, has committed suicide by shooting himself. Mr. Solomon's tragic death followed an acute attack of influenza in June, which induced melancholia. His architectural work in South Africa, where he was born, had won wide recognition for its distinction and nobility of conception, and for its skilful adaptation to the South African atmosphere. His transformation of the old Cape Town Stadhuis into a home for the Michaelis Collection of Old Dutch Masters is a singularly beautiful piece of work, but his main achievement was his stately scheme for the new University of Cape Town buildings at Groote Schuur, on the site which Cecil Rhodes contemplated.

Sutton Valence War Memorial

A simple and unemblazoned war memorial obelisk, designed by Mr. E. T. Richmond, F.R.I.B.A., has been unveiled at Sutton Valence. The obelisk, whic is prominently situated in the heart of the village, bea the inscription, "Remember the men of Sutton Valen who fought in the Great War, MCMXIV-MCMXVII especially the following who died for us,"—here appe the names of a number of inhabitants who made t great sacrifice.

The Cenotaph

The concrete foundations for the Cenotaph in Whit hall have been completed, and deliveries of stone a being made on the site. The Government have aba doned the idea of putting up with flags of carved a painted stone. Instead, real flags of silk will be use and will be replaced when weatherworn. Efforts a being made to complete the Cenotaph for the King unveil it on Armistice Day.

An Historic Yorkshire Church

There is every possibility of the ancient Trin Church at Richmond, Yorkshire, being handed over the Office of Works. The work of repair in the event the church being handed over to the State cannot commenced until next summer, and the cost is estima at at least £2,000. Trinity Church is situated in Market Place, and is probably the original church of parish. From the outside it presents a curious aspect, a dwelling-house and a shop are inserted between steeple and the nave; other shops are built into the so wall beneath the gallery.

Housing Grants

Building by private enterprise proceeds steadily a despite the holiday months, shows an apprecia increase every week. Plans have now been appro by the Ministry of Health in respect of 17,593 privat built houses, and up to August 21 858 of these hou had been completed. This total represents in cas housing grant of £176,126 up to August 27. Plans been approved in respect of 18,193 privately built hou and 993 of these houses had been completed. T figure is an increase of no less than 135 on the figure the previous week, and represents in cash a hous grant of £205,079. The total amount for which Ministry is committed in respect of houses approved £4,410,075.

The National Portrait Gallery

Attention is called by the trustees of the Natio Portrait Gallery in their annual report to the urg need for immediate extension of the building. temporarily blocking the clerestory arches with rem able screens, accommodation has been found on the flight of the main staircase for the casts of the R effigies transferred from the sculpture gallery. T gallery, notwithstanding its utter unsuitability is being converted into a picture gallery for hanging political and military portraits of the ninetee century. Further accommodation for drawings been secured on the ground floor by boarding a par the trustees' corridor. In the basement, by a sim plan, room is found for the collection of Arctic explo Both places are in semi-darkness, and electric ligh necessary. Such expedients, says the report, are last resource, and it has become a harassing probler hang any important addition. In the reference sec pictorial suffocation steadily progresses in defecti lighted rooms.

(*News continued on page 277.*)

The Late E. A. Rickards, F.R.I.B.A.

AS we briefly recorded in last week's issue, the death occurred in a Bournemouth sanatorium, on Saturday, August 28, of Mr. Edwin Alfred Rickards, F.R.I.B.A., partner in the distin-shed firm of Lanchester, Rickards, and Geoffry cas. Mr. Rickards, who was only forty-eight, died m lung trouble contracted on military service. He unteered for the Army in 1916, was invalided home er three months in France, and continued on home vice till he became seriously ill in April, 1919. During period he took an active part in the planning of the tor Transport Works at Cippenham, Slough, before vas handed over to the Royal Engineers. He also pared a striking design (which, unhappily, proved to his last) for the Canadian War Memorial. This we able to reproduce in the present issue.

n conversation with a friend some time ago Rickards marised his early career in the words: "I never did good until I met Lanchester"—a tribute that bears eloquent testimony to his partner's good feeling and keen discernment. He started to study architecture at the South Kensington Schools; but he confessed that he took very little interest in the geometry problems set him, though he remembered making a drawing of a Corinthian capital that gave him more personal satisfaction. At the early age of fifteen he entered the office of Mr. Richard J. Lovell, and two years later migrated to that of Messrs. Eedle and Myers, where he stayed about a year. When turned nineteen he became assistant to Messrs. Dunn and Watson, and with them he first began to get a grip of his future profession. At this time the bulk of his work was domestic, and here he met Mr. (now Sir) R. S. Lorimer, who was much interested in sketching at South Kensington, and was studying hard. He spent a year with this firm, and the following eighteen months with Mr. Howard Ince, who encouraged him greatly.

All this time Rickards was studying hard, and, if the truth be told, over-studying. Later on, like his partner,

THE LATE EDWIN ALFRED RICKARDS, F.R.I.B.A. FROM A PENCIL DRAWING BY R. B. M. PAXTON.

he also entered the office of Mr. George Sherrin, meeting Mr. Stewart. Rickards gained much good experience here. But a long course of systematic over-work brought about the inevitable result—an entire breakdown at the age of twenty-one. Here Mr. Lanchester, Mr. Walker, and some other friends, showed their good sense by taking his future in hand for three months and sending him off to recuperate in Italy. On his return to England he carried on for a time with free-lance work, making drawings for architects, and doing general art work. He collaborated with Mr. Lanchester in several competitions, but with no very substantial success, though they carried off a few small premiums. About this time Mr. Rickards visited Paris, and then the Cardiff Town Hall and Law Courts competition came on. He took a month off and joined Mr. Stewart and Mr. Lanchester in collaboration on a design. Three days after sending in they heard of their success, and the partnership was formed, Mr. Rickards being then twenty-five. Mr. Stewart died in 1904, and the firm was thenceforward continued by the surviving partners until recently, when Mr. Geoffry Lucas was taken into partnership.

Rickards frankly confessed that his adoption of architecture was largely a matter of chance. At one time he was seriously thinking of taking up something else; but architecture afforded him the readiest means of making a living. Otherwise he would have favoured painting, and he had a brilliant gift of caricature. He was one of the most gifted draughtsmen among modern architects, and his interest with the pencil was by no means confined to architectural subjects. Indeed, Rickards could be very happy with a pencil and a note-book in the quiet corner of a crowd; sketching types of humanity always provided an engrossing pastime. His sketches Vienna on the occasion of the 1908 Internati Congress may be remembered by readers of this Jou They appeared in our issues for June 24 and July 1, 1

After Cardiff, Messrs. Lanchester and Rickards competitions for the Deptford Town Hall, Hull Sc of Art, the Wesleyan Hall, the third Church of C Scientist, Curzon Street, and others. They also w competition for Godalming Town Hall, but this wa carried out. Rickards believed that their greatest in design was that submitted in the London County competition. The Geneva Memorial Competition also a fine test of his powers as a draughtsman.

Reference has already been made to Rickards's e ordinary gift of caricature—a gift constantly exer upon his friends, who made sure to secure, and, a know, prize very highly, the vigorous, dashing st that he made of them. He was a very intimate f of Mr. Arnold Bennett, some of whose books he trated, one of the most recent being "The Log o Velsa"—a record of travel in a small yacht. illustrations which accompany these notes are reproc from a book now in course of preparation on "The of E. A. Rickards," to which Mr. Bennett contribut appreciation of the now unhappily deceased artist had been hoped that the book might be produced yet he lived (the unsatisfactory state of his healt been known for some time past), but it was not to

By his many friends Rickards, as a commentato said, was valued not only for his great artistic gift also for his personal charm, his quick sympathy, a friendly humour. Architecture has lost one of her brilliantly gifted exponents: he will be sadly misse

SKETCH FROM THE BOOK OF THE A.A. PLAY, 1909. BY THE LATE E. A. RICKARDS.

Design for the Canadian War Memorial

By the Late E. A. Rickards, F.R.I.B.A.

These reproductions are from some of the last water-colour drawings that came from the hand of the late E. A. Rickards, whose mastery of composition in mass and detail is well exemplified. It will be noted that, in its general character, the design has something in common with the Wesleyan Hall. A reproduction of this design in colour appears in a book on the work of E. A. Rickards which is now in the press.

From Sculptor to Waiter

R. CROSLAND McCLURE, the brilliant sculptor, has found it more profitable to throw up his art d become a waiter at an hotel in Kings- Vale, Surrey. When interviewed last ek he explained: "People have no ney for sculpture these days, and, like ny other people, I have had to adapt self to circumstances." Well, after all, or no art, a man must live, and—in the ds of Sancho Panza—"an office that not provide a man with his meat and ık is not worth five horse beans."

s Mr. Eric Maclagan, in the henæum," remarked a few weeks ago, inst the unhappy sculptor all things spire. His materials, marble, stone, aze, are exceedingly expensive. The our of carving, if he is an honest man does it for himself, is physically ting, and so hazardous that a slip of hammer, or an unfriendly fault in the e, may destroy a month's labour. If work is on any considerable scale it is cult to shift, and it occupies a great of space. Every stage of his proce- , if casting is involved, means fresh nses to be incurred. When his erpiece is finished it is not at all easy t it exhibited, and almost impossible pe that anyone will buy it.

a man can command a table, a chair, and ink, he can commence in the ry calling, Trollope tells us; if a man d take up music as a career there is expense beyond his training; for ing, pigments, canvas, and brushes till fairly cheap; look around as one is there any other art so beset by the sity of having capital as that which Crosland McClure has found it too to pursue?

e result is inevitable. When a or does persist in his career in of all discouragement, he is forced, has his living to make, to confine lf almost entirely to portrait busts n occasional sepulchral monument— ly work for which he is at all likely commissions. Hardly, on the rarest chance, can he afford the luxury of expressing himself unhampered in stone or in bronze, and if he does so he runs every risk of having his work left on his own hands.

FIGURE ON THE USHER HALL, EDINBURGH. CROSLAND McCLURE, SCULPTOR.

Of course, in this particular case it may be said that Mr. McClure could have got a job as "restorer" in ecclesiastical work. A fine occupation for an original artist and man with his own ideas—and who, incidentally, has fulfilled at least one Royal Commission! Better to forsake one's art for ever than to be perpetually reminded by every ring of the chisel upon stone that once one was one's own master, and wrought in marble, and shaped it to one's own mind. Apparently Mr. McClure has refused to come down in his art.

There must be something wrong with the times in which one so gifted fails to make as much as a bricklayer or a policeman; maybe it is the public who are at fault—maybe it is the State. With so many disadvantages against him, the

THE SOUTH AFRICAN WAR MEMORIAL, LEICESTER. CROSLAND McCLURE, SCULPTOR.

modern sculptor is peculiarly in need of intelligent patronage. In Paris he has at least a reasonable prospect of getting a statue bought by the State; the price paid is very low, and the conditions of exhibition in the Luxembourg are far from ideal, but it is better than nothing. And here we would strike a note of solemn warning: having before us an unmistakable sign of the neglect of one of the noblest and oldest arts, and knowing well that nowadays any coal-dealer, insurance agent, or what not may "branch out" into the practising of architecture, we turn to all architects who have only their profession to depend upon for a livelihood and say: "See to it that it is not your turn next."

H. J.

Mr. G. K. Chesterton on Old Cottages*

I have come to speak on a subject about which you all know a very great deal indeed, and about which I know absolutely and literally nothing whatever. You may say that that argument applies equally to all the subjects upon which I speak, but I think I can honestly say I have specialised in ignorance in cottages. I am one of those persons who are so constituted that I am capable of losing my way in my own house. If I were to build a cottage it would certainly fall. I cannot claim to have any sort of relation to the very valuable labours and the purposes of this Society; I feel rather like a subject of its explorations than an adviser of it. I feel, in fact, very much as if I were an ancient building myself, and one which I hope you will restore sympathetically.

I may mention that among the disadvantages under which I suffer is a lack of ventilation in the sense of voice. I trust I make myself heard, but I very often do not. I have a cry that is like the mouse that came out of the mountain, or for that matter a small voice like Charlemagne's, though they do say he was 10 ft. high and 200 years old. Ten feet high and 200 years old is a great deal for a man and not much for an English cottage, but I am in the position of the cottage described so admirably in your report, "I am very much neglected, but there is no need to condemn me as dilapidated if anyone will mend the roof and generally tidy me up. The materials are still sound for the most part, and require cleansing and whitewashing, and, I say this emphatically, I want carefully to be made good"—perhaps in a special degree what I require to have done to me is to make me good, some mental and moral direction, though it is a good sentiment with which to start a consideration of this kind.

The consideration which I offer to-day is of the vaguest and most amateur description. In glancing through your report I cannot judge beyond a very general impression of its great research, accuracy and value, and I may add of the admirable English in which it is written, on this question of the treatment of cottages. I can only give in a very hazy and general fashion as an amateur and outsider, as the guest of your patient and kind hospitality for the moment, some opinion of what I conceive to be the general tests or the general rules which one should observe in all historical efforts of this description; and that is why I began with the phrase that we have all got to remember that we must all require making good. If there is one thing that strikes me about the approach to all these problems of the work of our ancestors, and the approach to things like buildings and ancient architecture, it is that almost invariably on the vandal and sometimes on the æsthetic side there is a tone often used on which the criticism should be entirely moral. It is a tone of spiritual pride and spiritual insolence. There is a curious assumption that all the works of the past, and all the poor people living in the present, are subject to our rabid, hasty, and generally entirely personal contempt. That attitude of mind is a thing to be got rid of.

When one deals with any question like the cottages of the poor—especially the old cottages—the first thing to remember is that those human houses were built by human beings as intelligent and, generally speaking, very much more free and independent than the people in the modern industrial society, and that they were built as part of a certain human life, the whole of which has to be taken into consideration even if it has to some extent, and most unfortunately, faded from our civilisation. If there is one part of this report which strikes me most particularly in reading it, it is the admirable introductory paragraphs about the way in which an insensible spirit of the place itself has crept into all those old cottages, making them from the materials of the country and making them according to a sort of implicit image or type of which the people themselves were probably to a great extent unconscious. The first thing to remark is, that all that general mode of life carried with it certain characteristics which are much too easily forgotten. For instance, agricultural life is almost entirely passed in the open air. That may seem a very simple truism, but I do not know how many hundreds of thousands of educated people entirely forget it when they criticise the cottage accommodation or general cottage life. They apply to cottages the same principles which they have been driven by shame and some degree of stricken consciences to apply to their own detestable modern factories.

The next fact is that the old agricultural life, though that is never assumed, was a life of hard work: they were a hard people. You will generally find that when people talk of a new scientific method it is an artificial substitute for a thing which in a healthier state of society everybody would roughly know for themselves.

That, then, is the first general proposition to remember about these things: that if you are dealing with agricultural cottages you are dealing with cottages for people living an agricultural life. If the agricultural life is done for, and had better be destroyed, or is already destroyed, say so, and off at once with it; but as long as you are presupposing the existence of what we hope for, that rural civilisation of Christendom, you must allow that there is something in the balance of hot and cold, the balance of work and joy, the balance of belief and hope, and so on, which the people actually living have arranged for themselves. The obvious examples of the views are all examples familiar to you, such a thing, for instance, as the open fire. There are an enormous number of people in the modern world who would be quite capable of attempting to fill all cottages with some hideous system of steam-heating and central heating, on the ground that it would be more practical. I remem a German professor who came to my ho some time before the war, who poir calmly to the fireplace in my own ho and said it was "Nicht practisch" (it not practical), he having some moc views on the mechanical heating of roo I was so moved with indignation that I what I had never done before or since anybody and encouraged his practicab with something in the nature of a prac joke, because when he complained ne and he complained of a great many th —that the road down to the station in town was rugged and difficult to get c I told him it was not a road at all, b system of military fortifications inter to protect us from an invasion from west. I have always had a lingering that he would put it down in the notel as one of the fortifications against an i sion of England.

Taking that gentleman as a wor example, the first thing to say is that entirely wrong in the point of view w he takes up. Even on the practical as he is wrong. My experience of ce heating—which I only take as an exa of the extreme of the modern alternati is that it is very uncomfortable, extre unhealthy and entirely useless for the ticular purpose for which you want i warm yourself, your hands, your fee any particular part. For that parti reason the old traditional heating thousand times more practical and n sary for people who are living a ki active outdoor life, subject to mome cold, and to local cold, than it is to p who propose to stop in all day and official reports and things of that kin merely give that example of the mo life as a part of the only thing I venture to do before an assembly better informed on the whole subject I am. The only thing I should like is a little imaginative caution.

In the report there are passages refe to the *genius loci*, and the genius people is generally in a special c characterised by the unconsciousness genius; that is to say, it is always ver to go and bully poor and simple who have their own greatly superior in art. The whole process of the of the manufacturing civilisation has been a process of that sort of intell bullying. A man knew perfectly we he liked a certain kind of thing—it be hundreds of things: one can giv example that comes to one's head. member standing in a cottage in S in that part of the heavy clay of Sus Horsham, and looking out of a lo window, that is to say, a window many of our cottage windows, a goc broader than it was high, and see front of me a low beech tree spread to fit the frame of the window. would say, "It is an accident." It the spirit in which that building wa went with the subconscious soul c thinking in terms of that heav Those strong low trees of the hill g very parallel lines like a sea went it. The moment one stood there a it, one saw that the whole thing w thing. Now, probably the peopl made that window and fitted it landscape would have been very m wildered if you had gone to them an "Why did you do this; surely it i to have a high narrow window, t more of the light, or an octagonal according to the new scientific pr

* Extracts from an address to the Society for the Protection of Ancient Buildings. (From the Annual Report).

The late E. A. Rickards was no less accomplished as a sketcher than as an architect. Sculpturesque subjects had a peculiar fascination for him, and he handled them with consummate ability. The above reproduction is from a book on his art which is now in the press.

of illumination"; the chances are that you would have the best of the argument and they would have the worse window.

Thatching is one of those old popular arts in which the old type of rustic really has skill, and often genius. You have to know how to do it, and those arts are grossly neglected in the scheme of modern education; in fact they are forgotten. There is, I suppose, a sort of practical argument against thatching on the ground of its being dangerous through fire. About that I would say, it is a remarkable fact that you never hear those arguments against things which are recent, unknown, unexplored, experimental, and, what is very often the same thing, things in which people at the moment have put a great deal of money.

Nobody says that motoring, or even the general use of electricity is dangerous, though it is dangerous; still less that the persistent mixture of chemicals with food and drink is dangerous, though it is dangerous, and sometimes fatally so. It is only about the things in which thousands of people have lived thousands of years in safety that you ever hear the sudden scare of human peril. It is only about the unused that nobody thinks of being afraid, it is only the fixed and settled and normal human dangers about which they seem, in some extraordinary manner, to have been disarmed, and I venture to say the simple explanation is that there is no go-ahead liability company interested in thatching, there is nobody making millions of money by teaching people to thatch.

The Protection of Ancient Buildings

The forty-third annual report of the Society for the Protection of Ancient Buildings, just to hand, is a document of very great interest, for it contains not only a full record of the Society's current activities on behalf of venerable buildings, with a number of extremely attractive illustrations, but also a report of an address given to the Society by Mr. G. K. Chesterton in July of this year. In Mr. Chesterton's characteristic vein, the address makes most stimulating reading, as may be judged from the extracts from it which we give elsewhere in this issue.

Coming to a consideration of the report itself, it is gratifying to find that the Society's activities continue to grow rapidly in number, and, consequently, in value. More than 200 buildings have come before the Society's notice since June 1, 1919, the examples being widely scattered: Rheims, Cairo, and Jerusalem are even mentioned in the list.

Mr. Thackeray Turner's opening speech, which is reported, contains an excellent summary of the Society's work and outlook and some interesting references to matters of current interest. He said:

"It is now thirty-seven years ago, rather more, since I became secretary of this Society, and therefore I think I can claim to know what its workings have been, and, briefly, I should like to say that whereas, when I became secretary of the Society that number of years ago, almost every clergyman, and every architect almost, was dead against us, at the present time your architects and clergymen and mayors and corporations come and ask for our help; in fact, we practically now have no opposition, but simply help those who ask to be helped. Now this is a very big change. I do think this Society is to be thoroughly congratulated on the fact of my not being secretary any longer, because we have got a secretary who goes hunting round for work, and who gets a great deal more than he can do and even a great deal more than he is paid for. Having said that much, I cannot touch upon the different cases in the report; but there are two or three so desperately important that I must mention them. First of all, there is Westminster Abbey, which must be uppermost in the minds of most people in England, if not of the world, and I think we owe a deep debt of gratitude to a member of this Society, Mr. Harrison, for writing a letter to "The Times" pointing out the fears caused by the authorities appealing for money before saying how it was going to be expended. Our action has been to hold our hand until we know what the money is to be used for. Personally, I am thoroughly satisfied with every single thing that has been done under Professor Lethaby's supervision, and therefore I think we may fairly rest contented that although they are raising an enormous sum of money it will be fairly and reasonably and desirably spent. . . .

"The City churches are mentioned in our annual report, and I think our members ought to be very pleased with the action which the committee of this Society took. They decided that the 'City churches' being such a big question, and there being so much money involved, while the cost of any opposition would be so immense, it was not desirable that this and other societies should deal with the matter individually, but that all societies should join together and form one committee to deal with the subject. Consequently we wrote to the different societies, and as you will see in the report the result was that the Royal Academy, the Society of Antiquaries, the National Trust, the Society of Civic Arts, the Institute of British Architects and many others have all joined together to form one committee, and that committee is dealing with the matter."

By courtesy of the Society we are able to reproduce two of the very interesting illustrations which accompany the report. With regard to the doorway of No. 18, Buckingham Street, Adelphi, it is stated that it was rapidly rotting owing to the fact that the lead on the head is perforated with holes. As the doorway is a beautiful example of early eighteenth-century work, the Society offered advice as to its repair to the owner, who told her builder to take instructions from it. It is hoped when repaired this doorway will last for many years.

With regard to the Town Hall, King's Lynn, it is pleasant to report that the Corporation of King's Lynn, conscious of the value of their Town Hall, have asked and accepted the advice of the Society as to its repair.

The report, which should be in the hands of all who cherish a regard for ancient buildings, may be had, price 2s., from the Secretary, Mr. A. R. Powys, 20, Buckingham Street, W.C.2.

THE TOWN HALL, KING'S LYNN.

(From the Report of the Society for the Protection of Ancient Buildings).

Pan-American Congress of Architects

THE following resolutions, which we have received from the R.I.B.A., were passed at the Pan-American Congress of Architects:

City Improvements.

That the Government and municipal authorities of all American countries should legislate in regard to the adoption of uniform plans for towns and cities, the present system of "squares" to be followed only in exceptional cases; the laying-out of parks and gardens, and the choice of plants, shrubs, etc.; the selection of suitable sites for public buildings and monuments, and the framing of regulations complementary to the above.

That a special course of "city improvements" should be included in the curriculum of colleges and schools of architecture, and that free classes should be given by the architects' societies.

That leagues should be founded in every American city to arouse, direct, and stimulate Government initiative.

That a "Pan-American City League" should be founded.

Building Materials.

That the Governments of American countries should direct the attention of their institutes and State laboratories to improving the method of production and exportation of building materials peculiar to each country, and that the use of such material should be encouraged in every way. That an account of such investigations should be published by an International Institute. That the architects' societies should form exhibitions of building materials and effect an interchange of such materials.

Profession of Architect.

That, in order to improve the aspect of towns and cities; to frame definite rules as to the conditions of dwelling-houses, which influence to so great an extent the people's moral and physical well-being; to ensure the beauty, safety, and hygiene of every kind of building; and generally to diffuse culture, the degree of architect must be recognised by the State, and the duties of the profession, which is the only one in a position to deal with the problems under discussion, established by law.

Cheap Dwelling Houses.

That the Government and municipal authorities should be encouraged to co-operate in the construction of dwelling-houses that shall be both cheap and hygienic. That the construction of detached houses in the neighbourhood of industrial and manufacturing centres should be encouraged, as also the erection of tenements in densely populated centres. That, before granting permission to build, the ground on which such houses are to be erected shall be supplied with drainage system, light, and pavement. That the municipalities and departments concerned shall be required to modify the building regulations at present in force, adapting them to the economic needs of such buildings, in order to effect a saving in the execution of the works without leaving anything undone pertaining to the hygiene, safety, and general aspect of such buildings. That attention should be drawn to the desirability of founding in each country a "National Bank for the building of cheap houses," to which employers, capitalists, and wealthy landowners should contribute. Night-shelters for those unable to afford a cheap and decent lodging should be built.

Public Culture.

That to educate the public appreciation of architecture, exhibitions of applied arts should be held periodically. That the authorities should form museums of casts of the works of famous sculptors and architects, and that free access to public buildings and monuments should be granted. That a yearly prize for the best-conceived and executed building should be awarded, and that lectures on the subject should be given in the primary and secondary schools of each country.

Professional Responsibility of the Architect.

That the Government of American countries should frame laws defining the responsibility of the architect, specifying clearly the responsibility of the architect and that of the contractor.

Architectural Training.

That, for any progress to be made in the architecture of American countries, special schools or colleges of architecture shoul be founded in which the necessa artistic, technical, and scientific trainin would be given.

"Pan-American Centre."

That a "Pan-American Centre" shou be formed, and that an interchange professors and students of architectu should be effected between the vario schools and America, thus creating a re professional solidarity.

Building Activities.

That the municipal authorities should desired to study the modification of t system in force, with a view to increasi the tax on unoccupied sites. That materials and machinery required f building purposes, imported from abroa should be allowed to enter the count free of duty, and that the transport tar should be revised in order to reduce freig rates. That the municipal authoriti should be desired to modify the prese regulations respecting the hygiene a safety of dwelling-houses, with a view transforming workmen's tenements i flats. That the public authorities shou be urged to fight the trusts. That t

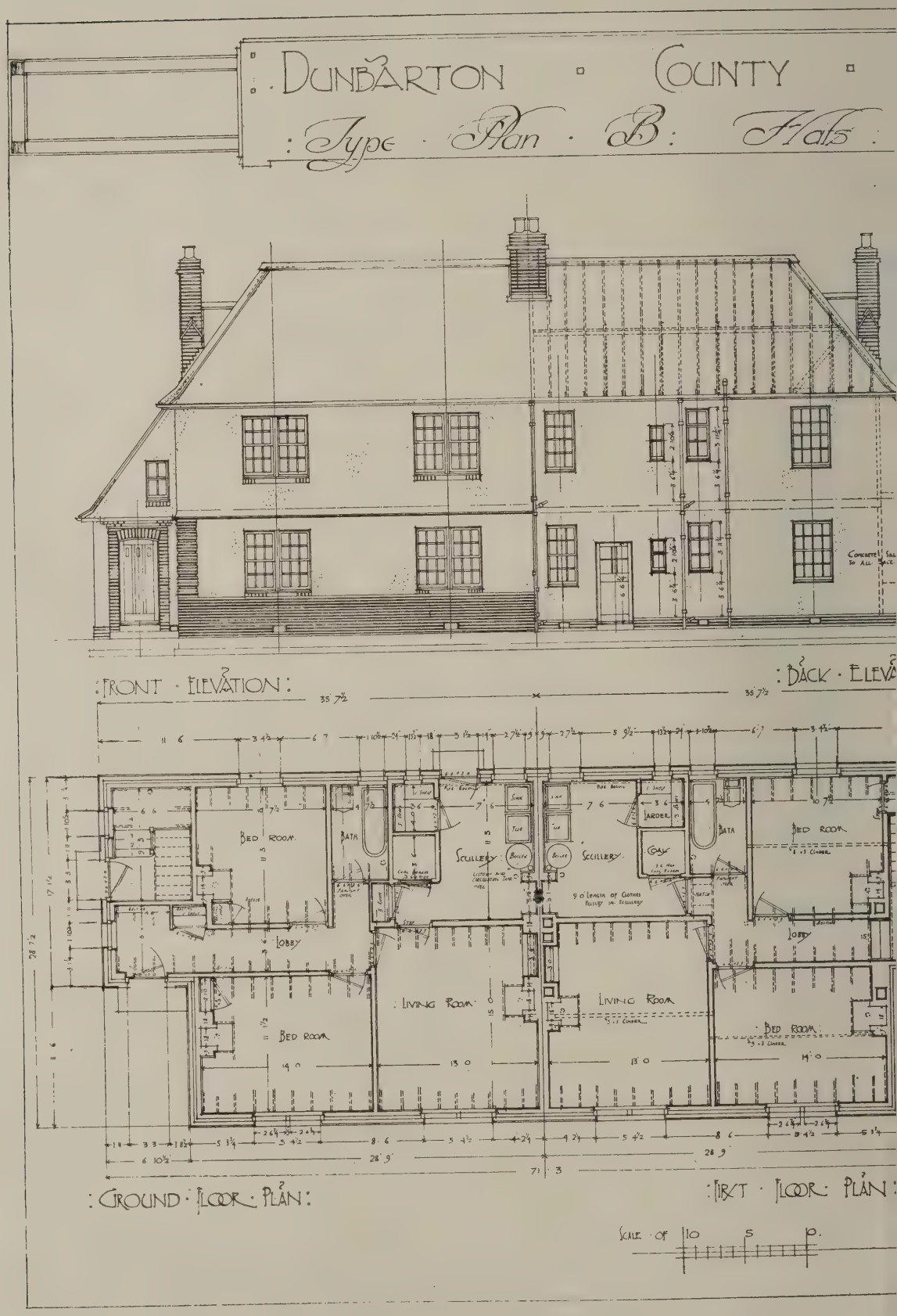
DOORWAY OF 18, BUCKINGHAM STREET, ADELPHI.

(From the Report of the Society for the Protection of Ancient Buildings.)

Architects' Working Drawings

Dunbart

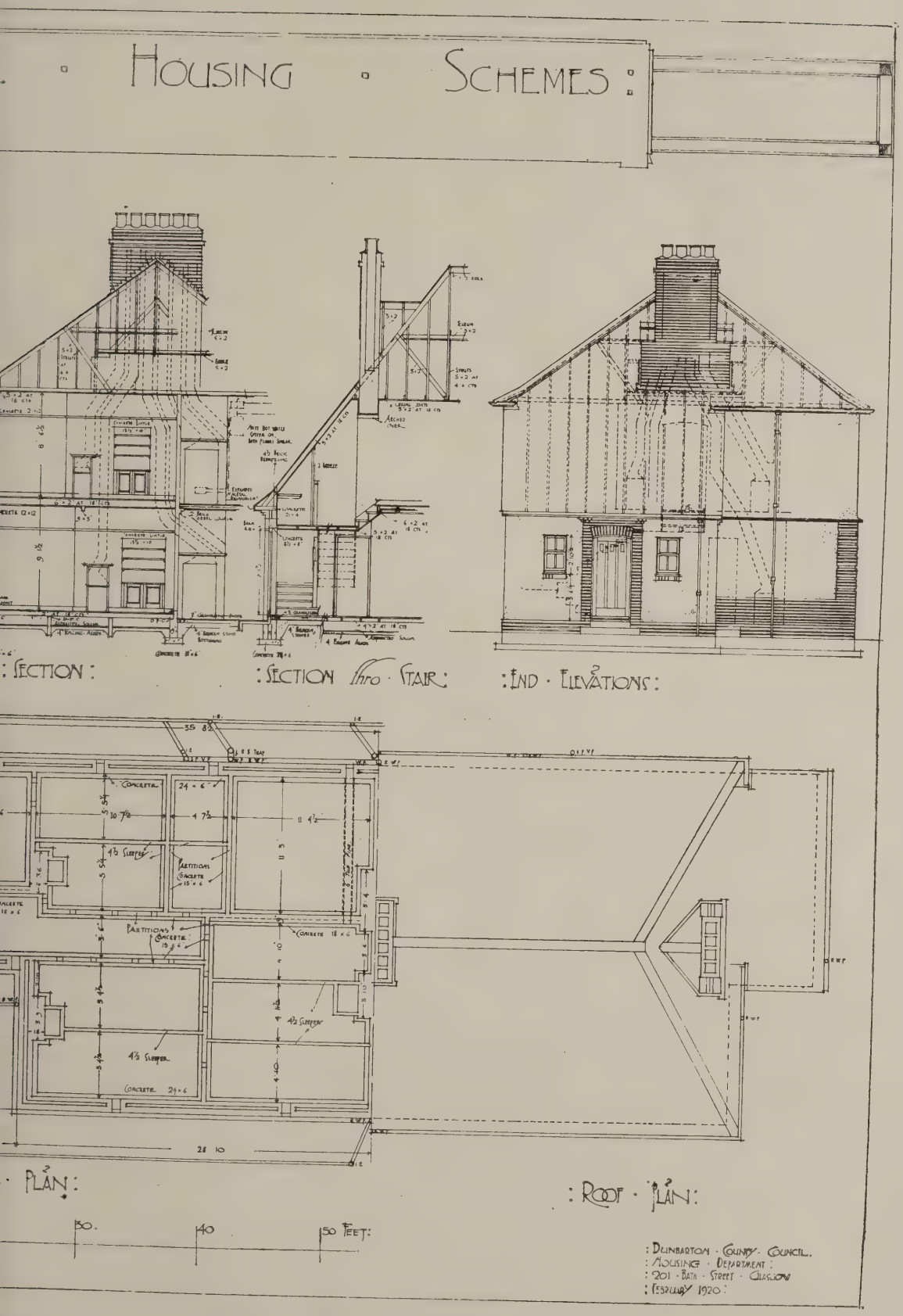
Joseph Weekes,



In Scotland there is a big demand for three-roomed flats, and the dra
various parts of the county, whose building scheme provides for well
Alexandria, Old Kilpatrick, and Duntocher, all industrial centres,
illus

ypical Flats to be erected by Council

.B.A., Architect



ommodation provided in blocks of four. The houses are to be erected in ped that building operations will be started at an early date at Renton, ut 700 houses is contemplated. Some other types of flats were t II.

raining of competent workmen should e encouraged by the Governments in heir industrial schools; and that private oncerns founded for the exploitation of ny industry necessary to the building rade should be encouraged. That an imrovement in the mortgage system should e studied, special mention being made of ie system in force in the Argentine Mortage Bank. That the laws of the country nd the municipal regulations relative to uilding should be revised.

'resentation to Councillor Stephen Easten

Councillor Stephen Easten, O.B.E., P., has been presented with two gifts by e Northern Counties' Federation of uilding Trade Employers. They consst of a single stone diamond scarf-pin, d a silver salver designed by Messrs. eid and Sons, of Newcastle. The latter illustrated below. The chief decoration a series of exquisitely executed "masks" carved reliefs of the River Tyne God ead on the border. These are suppleented by festoons of seaweed; whilst the ies of arcs which form the border are oken up at each point of intersection by a shells, all symbolical of Tyneside. The scription on the salver reads: "Preited by the members of the Northern unties' Federation of Building Trade nployers to Councillor Stephen Easten, B.E., J.P., President of the National deration of Building Trade Employers Great Britain and Ireland, ex-Sheriff of City and County of Newcastle-upone, as a token of esteem and regard, and in recognition of the many valuable services rendered by him to the building trade. July 28, 1920."

SILVER SALVER PRESENTED TO COUNCILLOR STEPHEN EASTEN, O.B.E., J.P., BY MEMBERS OF THE NORTHERN COUNTIES' FEDERATION.

Enquiries Answered

"Modern Practice in School Design."

W. B. C., Bridgwater, writes: "Apropos the review, 'Modern Practice in School Design,' published in your last issue, would you please inform me where the publication may be obtained?"

—The publication, which has been issued by the London County Council under the Education Act of 1918, bears the title, "Scheme of the Local Education Authority." Copies may be purchased, price 1s. net, either directly or through any bookseller, from P. S. King and Son, Ltd., 2 and 4, Great Smith Street, Victoria Street, Westminster, S.W.

Baker's Oven for Private Residence.

G. C. (Birmingham) writes: "Can you give me any information with regard to the construction of a baker's brick oven? A client of mine wishes to have one installed in his private residence?"

—Where the oven is of considerable length—say, from 14 ft. to 20 ft.—and perhaps in two tiers, the oven should be heated by pipes connected with the furnace. The pipes are placed close together longitudinally in the floor of the top oven, and heated at the back by a coke fire. In smaller ovens, heated by direct contact with the flame, the flue is placed on the opposite side of the oven to the fire, so that the heat may be drawn across the dome or vault, and so heat the whole area to an equal temperature. The height from the tiles to the crown of the vault in the clear rarely exceeds 15in., and the width and length can be any size requisite. It is advisable that it should not be less than 4 ft. square, exclusive of the furnace. The furnace should be planned so that its axis makes an acute angle with the opposite wall of the oven containing the flue opening, and all angles at the back should be rounded off to facilitate cleaning. An ash pit is placed beneath the furnace, and the proving oven is divided therefrom by a thin wall about 4½ in. thick, with open joints. The inner lining, the division walls, and vault may be constructed of firebrick cemented by fire-clay cement. The cast-iron fittings can be purchased from most range founders. The face work can be of glazed brick or stone, or cement work on stocks, while the top is usually cemented over flat just above the crown of the vault.

Sawn Laths.

W. M'N., Dumfries, writes: "In the 'Current Prices of Materials,' published in your Journal, you quote sawn laths at 4s. per bundle. I should be greatly obliged if you would kindly put me in touch with the merchant, as I have a great deal of lathing to carry out."

—The materials required may probably be obtained at Messrs. Allen and Baxter, timber merchants, Glasgow. We should like to point out that the prices quoted apply to London, and we cannot, of course, say that our querist can obtain the laths at 4s. per bundle, with delivery at Dumfries.

Correspondence

Sanitation of Theatres

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I have read with interest your paragraph on the sanitation of theatres, but venture to quarrel with your disclaimer of all responsibility on behalf of the "qualified architect."

I speak from bitter experience, having suffered in underground and odorous dressing-rooms, and shivered in the icy draughts that whistle through the wings—this, I may add, in a leading London theatre, as well as in many a provincial palace, newly built and "equipped with every modern luxury and refinement."

The plain truth is that the comfort of the public, not that of the mere player, is the primary consideration in theatre-planning. If architects were a little better acquainted with the conditions of stage life they could never have perpetrated the atrocities of lighting, heating, and sanitation that characterise the average theatre behind the scenes, and I would suggest that a few enquiries among long-suffering "professionals" would result in a material improvement in the work of theatrical architects.

SECOND PLAYER.

Publications Received

"Manual of Educational Woodwork." A Text-Book for Students. By David Brown. Published by Constable and Co., Ltd., London. Price 6s. 6d. net.

"Specification for Decorators' Work." A guide for architects, engineers, etc. By Fredk. Scott-Mitchell. Thos. Parsons and Son, 8, Endell Street, Long Acre, London, W.C.

Department of Scientific and Industrial Research

The following research associations have been approved by the Department as complying with the conditions laid down in the Government scheme for the encouragement of industrial research, and have received licences from the Board of Trade under Section 20 of the Companies (Consolidation) Act of 1908: The British Iron Manufacturers' Research Association, Atlantic Chambers, Brazennose Street, Manchester; secretary, Mr. H. S. Knowles. The British Portland Cement Research Association, 6, Lloyd's Avenue, London, E.C.3; secretary, Mr. S. G. S. Panisset, A.C.G.I., F.C.S. The British Scientific Instrument Research Association, 26, Russell Square, W.C.1; secretary, Mr. J. W. Williamson, B.Sc. The Glass Research Association, 50, Bedford Square, W.C.2; secretary, Mr. E. Quine, B.Sc. The British Non-Ferrous Metals Research Association, 29, Paradise Street, Birmingham; secretary, Mr. E. A. Smith, A.R.S.M., M.Inst.M.M. The Scottish Stale Oil Scientific and Industrial Research Association, 135, Buchanan Street, Glasgow; secretary, Mr. W. Fraser, C.B.E. Schemes for the establishment of research associations in the following industries have reached an advanced state of development: The British Electrical and Allied Industries Research Association.

Fire Tests on Concrete Columns

As the result of additional fire tests on concrete columns at the Pittsburgh laboratories of the U.S. Bureau of Standards, the Committee on Fire Proofing of the American Concrete Institute, according to the "Contract Record" of America, makes, in their latest report, several changes in the recommendations in its 1919 report, which are outlined in engineering and contracting as follows:

As was noted in the previous reports of the fire tests of concrete columns made at Pittsburgh, extensive spalling has invariably taken place in the fire tests of hooped columns from highly siliceous gravels, made in the usual way. Most of the columns tested have had a thickness of 1½ in. of protective concrete over the steel. In the recent tests two columns, Nos. 79 and 80, from Pittsburgh gravel with 2½ in. of protective concrete (see table) gave results that were distinctly better than those with protective concrete only 1½ in. thick (Nos. 73, 74, and others), and yet so poor, in comparison to those shown by columns from more favourable aggregates, with 1½ in. of protective concrete, that the expedient of securing better protection in the case of columns from highly siliceous gravel, by providing an unusual thickness of protective concrete, does not seem worthy of recommendation.

On the other hand, the two columns from Pittsburgh gravel, Nos. 77 and 78, with a thickness of 1½ in. of protective concrete, reinforced by a light grade of expanded metal, of large mesh, to prevent the loss of protective concrete by spalling, gave fairly satisfactory results. While the results of the test of these columns were not as good as those from columns from limestone, trap rock and blast furnace slag aggregates, the loss of strength in the four-hour fire test, as determined by loading to failure in the furnace while the column was still hot, was less than 60 per cent. in both cases, which presents a strong contrast to the results from columns from the same aggregate, Pittsburgh gravel, without reinforcement in the protective concrete, which failed under the working load before the four-hour fire test was completed.

Columns from Pittsburgh gravel, Nos. 82 and 83, with 2½ in. of protective concrete, with the light, expanded metal reinforcement in the outer concrete, to prevent the loss of protective concrete by spalling, could not be loaded to failure in the furnace, at the end of the four-hour fire test, due to the fact that their strength exceeded the load limit of the furnace equipment, which is equivalent to a stress of approximately 3,480 lb. per sq. in. on the effective area of these columns. When tested cold, after fire test, in a testing machine of high capacity, these columns showed an ultimate strength only slightly lower than that of a similar column, No. 84, which had not been subjected to fire test.

Judging from these results, it would appear that if the protective concrete of columns from highly siliceous gravel aggregates were reinforced with expanded metal so as to prevent loss of protective concrete by spalling, they would be sufficiently recommended for different conditions in the last report of this committee. The expedient of providing such reinforcement in the protective concrete of columns made from highly siliceous gravels is accordingly included among the recommendations for columns.

Two gravel concrete columns, Nos. 85 and 86, in which the aggregate was low in quartz content, have been fire-tested. Approximately 90 per cent. of the gravel was made up of limestone pebbles, and there was a high percentage of limestone in the sand. The columns had 1½ in. of protective concrete with no expanded metal. These columns showed no tendency to spall in the fire test and gave comparatively good results in other respects. Neither of them failed under the maximum furnace load when tested hot at the end of the four-hour fire test. When tested cold, after the fire test, the ultimate strength was found, in both cases, to be more than 75 per cent. of that of a similar column, No. 87, which had not been submitted to fire test.

These results indicate that gravels ar sands that are very high in limestone co tent are suitable for use in fire-resisti concrete. It is probable that all grave that are low in quartz may prove, on inve tigation, to be free from the spalling te dency. How high a proportion of qua can be included in gravels without t resulting concrete spalling under fire t conditions cannot be determined from t tests thus far made. The evidence n available appears to be sufficient, howev to justify the recommendation that grav high in limestone content be given a p ference for fire-resistive concrete o highly siliceous gravels.

The recommendations made in the port of the committee, for 1919, amend to conform to the evidence presented the foregoing discussion, may be stated follows:

1. That in concrete columns where fo hour protection is required, protect material not less than 2 in. in thickn shall be provided over the steel. columns in which a high percentage steel is used, increasing the importance affording it ample protection, the thi ness of protective material shall be 2½ for four-hour protection, and special c shall be given to the accurate placing the steel in the forms, to avoid inadequ protection on any side.

2. That for fire-resistive constructi limestone, trap rock, blast furnace sl well-burned clay and gravels, compo largely of limestone pebbles, be give preference over highly siliceous grave

3. That where highly siliceous gr aggregate is to be used, in columns w out hooping, and with no special s guards, round columns be given a pre ence over rectangular ones.

4. That where highly siliceous gr aggregate is to be used, all columns, especially rectangular columns and ro columns with spiral reinforcement, safeguarded by means of the following pedients:

(*a*) Placing expanded metal or o high-weight large-mesh reinforcement the outer concrete to prevent the los protective concrete by spalling.

(*b*) Giving columns additional pr tion of approximately 1 in. of cen plaster either on metal lath or reinfo with light expanded metal or other able material.

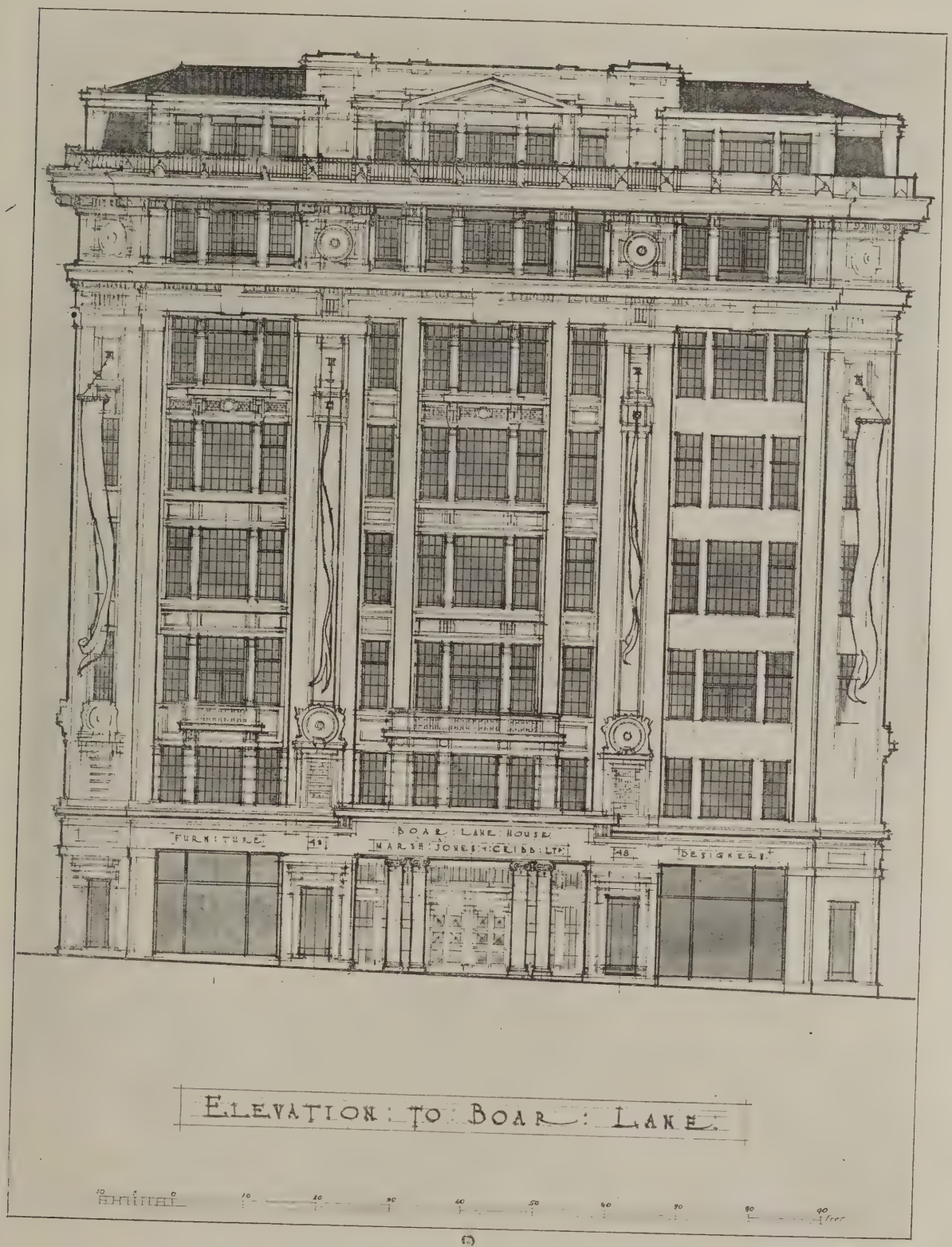
DATA FROM TESTS OF ROUND HOOPED COLUMNS OF 15 IN. EFFECTIVE DIAMETER.

Aggregate	Column. No.	Thickness of protective concrete. in.	Time of failure under working load. Hrs.	Min.	Max. stress tested cold without fire test. lbs. per sq. in.	Max. stress at end of 4 hr. fire test. lbs. per sq. in.	Max. stress tested cold, having been
	73	1½	3	50	—	—	—
	74	1½	3	20	—	—	—
	75	1½	—	—	4 880	—	—
Pittsburgh gravel	*77	1½	—	—	—	1.995	—
Pittsburgh sand	*78	1½	—	—	—	2.120	—
	79	2½	—	—	—	1,495	—
	80	2½	—	—	—	1,640	—
	81	2½	—	—	5,590	—	—
	*82	2½	—	—	—	—	5.1
	*83	2½	—	—	—	—	4,9
	*84	2½	—	—	5,155	—	—
High limestone gravel	85	1½	—	—	—	—	4,4
	86	1½	—	—	—	—	5,2
High limestone sand	87	1½	—	—	5,620	—	—

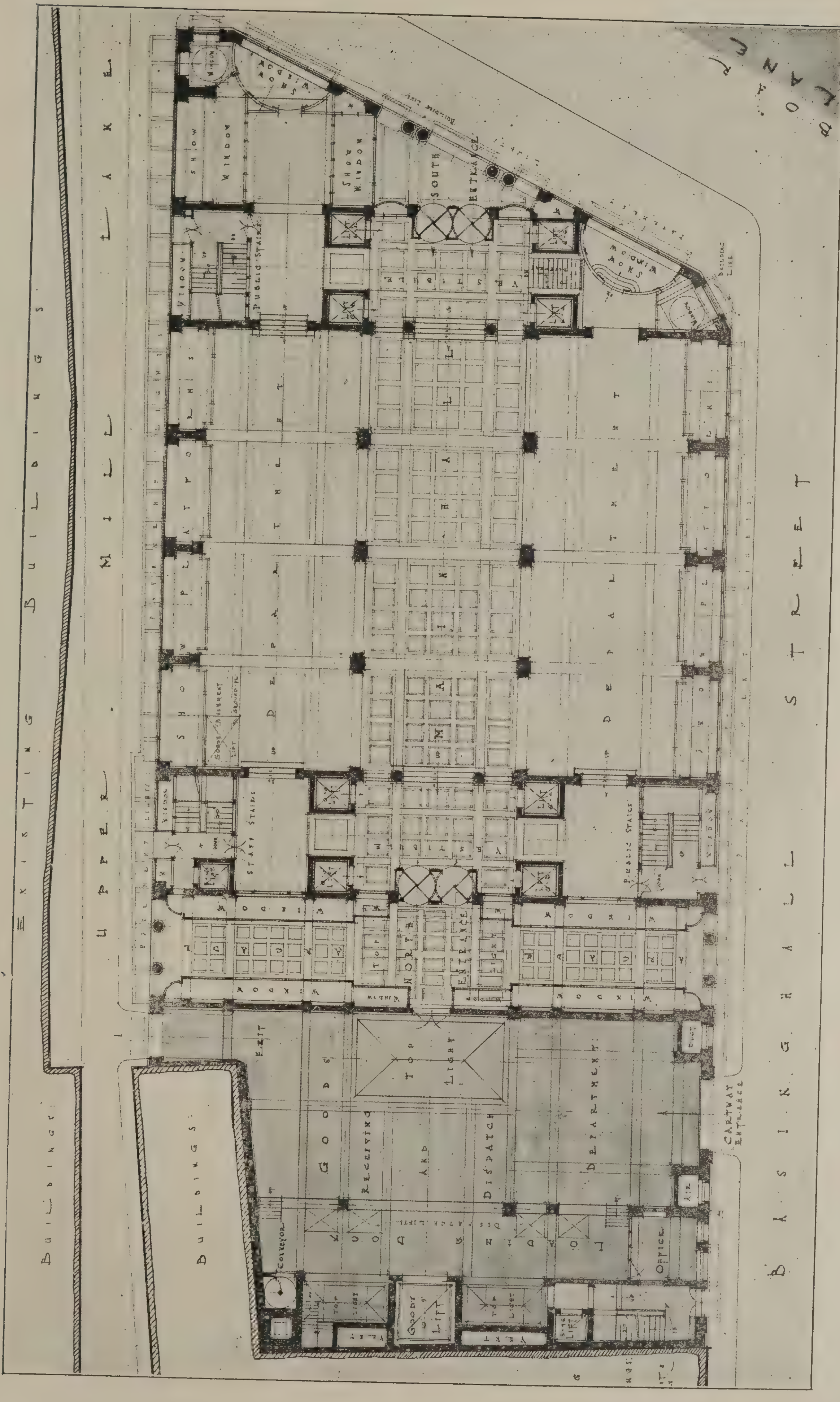
* Columns which had expanded metal in the protective concrete.

Current Architecture. 41.—New Premises for Messrs. Marsh, Jones, and Cribb, Leeds

Cackett and Burns-Dick, Architects



This design was placed first in a recent competition, of which Sir John J. Burnet, R.S.A., LL.D., was the assessor. More than 170 leading architects applied to compete, and a selection of thirty-one architects sent in schemes, twenty-five coming from the British Isles, and six from New York, Philadelphia and Toronto. The successful design meets all the requirements admirably, the elevations being well composed and the planning (see page 275) excellent.



PLAN OF NEW PREMISES FOR MESSRS. MARSH, JONES, AND CRIBB, LEEDS. CACKETT AND BURNS-DICK, ARCHITECTS.

(See also page 273).

Glasgow Housing Exhibition

Steady progress is being made with the organisation of the Glasgow Housing and Health Exhibition, which is to be held from September 15 to October 9, at the Kelvin Hall, Glasgow, and which promises to be highly successful. For the first time the new extension will be utilised, giving a total area of, roughly, 200,000 sq. ft. Every opportunity will be given for displaying the ingenuity of the architect and the builder in providing cheap and commodious houses. A most interesting feature in this connection will be a house, fully equipped with furniture, furnishings, and fittings, erected by the Glasgow Corporation, under the supervision of the Director of Housing, Mr. Peter Fyfe. Another feature will be the display by the Canadian Government, in the Cinema Hall, of official films dealing with such interesting subjects as the great national industries of the Dominion. Arrangements have also been made to provide a musical programme every afternoon and evening by popular bands. All available space has now been booked up, and appended is a short preliminary survey of the scope of the Exhibition. Some of these exhibits, with others, will be treated more fully in our next issue. Visitors to the Exhibition are invited to visit our own stand, at which all our various publications will be on view.

Walls, Floors, and Roofs

Wallis Heeley, Clarkston, Glasgow. Fibre building board, fibre wall tile coloured with "Beaudexol" water paint and varnished, giving a sanitary, waterproof, and easily washable lining for bathrooms, dados, staircases, etc.

Kirkwood, Bannatyne and Co., 64, Wellington Street, Glasgow. Asbestos cement, plain and corrugated sheets, roofing tiles, rotary and turbine pumps, etc.

Frank G. Price and Co., 115, Bothwell Street, Glasgow. "Vibrotamp" concrete consolidating machine for producing concrete slabs and blocks; "Pricelite" asbestos cement slates, etc.

The Rawlplug Co., Ltd., Lenthall Place, Gloucester Road, South Kensington, London, S.W.7. Patent fibre plugs for securing a firm fixing into any material.

Heating, Lighting, and Sanitation

Caledonia Manufacturing Co., Ltd., Canal Works, Waltham Cross, Essex. Radiators, boilers, water heaters, etc.

Ewart and Son, Ltd., 346 to 350, Euston Road, London, N.W.1. Copper water-heaters, baths, lavatory basins, etc.

Falk, Stadelmann, and Co., Ltd., 74, 76, and 78, Great Clyde Street, Glasgow. Silk shade electroliers, indirect lighting through alabaster and moonstone bowl fittings, radiators, table and floor lamps, heating, lighting, and cooking accessories, etc.

Glasgow Corporation Gas Department, City Chambers, 45, John Street, Glasgow. Gas ranges, refuse destructors, gas boilers, geysers, etc.

John Glendinning and Sons, 90, West Campbell Street, Glasgow (Avenues B and C). Sanitary, electric light and gas fittings; gas fires, etc.

Lieut.-Col. R. H. F. Standen, 15, Pall Mall East, London, S.W.1. "Cendra" slow combustion stove, which burns sawdust, peat dust, etc.

Paints and Enamels

The North British Jointing Compound Co., 170, Hope Street, Glasgow. Hercus spirit enamels and stains, jointing compound, iron cement, furniture polish, etc.

Furniture, Ironmongery, Etc.

Belfrage and Bentley, 120, Cowcaddens Street, Glasgow (Avenue B, Stand 65). Examples of modern craftsmanship in brass, copper, etc., designed for the home; fenders, lock and finger plates, etc.

The West of Scotland Trading Co., 266, Renfrew Street, Glasgow. Furniture and mirrors.

Labour-Saving Devices, Etc.

Acme Manufacturing Co., Shettleston, Glasgow. Rubber roller clothes wringers.

M. K. Cooper and Co., 15-21, Chapel Works, Liverpool. Vacuum cleaners.

The Electric Appliances Co., Ltd., 91, Cadogan Street, Glasgow. "Imperial" "two mile a minute" vacuum cleaner. In operation the cleaner is simply connected to an ordinary lighting and heating circuit.

"Gem" Labour-Saving Device Co., Tomlinson Street, Hulme, Manchester. "Gem" vacuum electric cleaner.

David J. Gilmour, 1a, Blythswood Square, Glasgow. Electric labour-saving devices for use in the home.

Magic Appliances, Ltd., 151-159, Westminster Bridge Road, London, E.C.1. "Magic" portable suction cleaner for upholstery, furniture, bedding, etc.

Warsol Agency Co., 150, Hill Street, Garnethill, Glasgow. "Marvel" non-electric suction carpet cleaner.

Portable Utilities Co., Ltd., 91, Cadogan Street, Glasgow. The Whirlwind portable sweeper, in which all the power to operate is self-contained.

Ronuk, Ltd., Portslade, Brighton. Domestic specialities and the Ronuk home polisher.

Scholey and Co., Ltd., 56, Victoria Street, Westminster, S.W.1. Premier electric suction cleaner.

Vim Washers, Ltd., 217, St. Vincent Street, Glasgow. The "Aquavim" domestic washing machine.

Trade and Craft

King Edward VII. Memorial Sanatorium.

The whole of the constructional steelwork and reinforced fire resisting floors at the King Edward VII. Memorial Sanatorium, some interesting illustrations and particulars of which were published in our issue of August 11, were carried out and completed by Messrs. Homan and Rodgers, engineers, 10, Marsden Street, Manchester.

Bulk Storage Installations.

The Anglo-American Oil Company, Ltd., of 36, Queen Anne's Gate, London, S.W.1, have sent us a profusely illustrated booklet, the purpose of which is to show some of their many recent installations for the bulk storage of petrol. The green pump is making its appearance over United Kingdom, in city, town, and lage, speedily replacing the familiar pe can. Bulk storage installations are general use in Canada and the Un States, and are being adopted to a v large extent on the Continent. The pe consumers in the United Kingdom ou not to be behind the times in their met of handling motor spirit, and there is reason for this to be the case in the fut The bulk storage installation consists a self-measuring pump connected to underground storage tank, and the sys is approved of by the leading insura authorities, official surveyors, and cou councils. Immediate delivery of equipment can be given, and assistanc available if any difficulty should be ex rienced in securing a licence. At the b of these installations is the organisa of Messrs. Gilbert and Barker b storage systems.

Stucco Toned with Colour Aggregat

The introduction of colour in stucco widened immeasurably the charm and turesqueness of bungalow and h design. Experiments show that by u ing with Atlas-White Portland cemen the finish coat, yellow, buff, or pink ma chips, warm grey or green granite ch yellow or red gravels or sands, a beauty, a new life, and a decided chara and texture are given the stucco, w make it incomparably more attract The variety and character of this stuc clearly shown by colour panels in a n ber of interesting booklets which have b sent us by Messrs. J. and R. Howie, I of Hurlford Fireclay Works, Kilmarn The chips, or aggregates, are qu waste—small pieces of richly colo marble and granite crushed to size. T are coloured by Nature—naturally va in tone—and, of course, their colours permanent. Rich and artistic effects obtained, with unlimited individuality, the general tone effect may be warm b brown, yellow, red, or green—depen on the aggregates chosen and the am of white cement used to contrast with th These aggregates are used only in finish, or last coat of stucco, so that quantity required for the average bu low is so small as to be almost negli Atlas-White is a white Portland cemen the same high quality as grey Atlas ce and gives a pure white finish for st bungalows, garages, and pergolas. used in making fountains, sun d garden seats, etc., and is a most effe background for trailing vines, shrub and evergreens. Atlas-White is non-s ing, and therefore an excellent base colour effects in stucco, and is used for pointing and setting face-brick, st and tile because of its non-stai quality. The booklets referred to "Information for Home Build "Colour Tones in Stucco," "Indus Houses in Concrete and Stucco," "B ing a Bungalow," and "A Survey of Principal Types and Groups of Pe nently Constructed Industrial Hous copies of which may be obtained on a cation to Messrs. Howie. The boo are admirably produced, profusely i trated, and contain a large amount of resting and useful general and c information. The Atlas Portland Ce Co., the manufacturers of Atlas-W supplied over 7,500,000 barrels of Port cement for use in connection with Panama Canal.

HOW HY-RIB HAS HELPED HOUSING.

Pair of HY-RIB steel-framed concrete houses. Complete in six weeks.

The housing situation is a menace to the nation. Houses *must* be built, thousands of them—and AT ONCE.

The people don't want speeches. They want Houses.

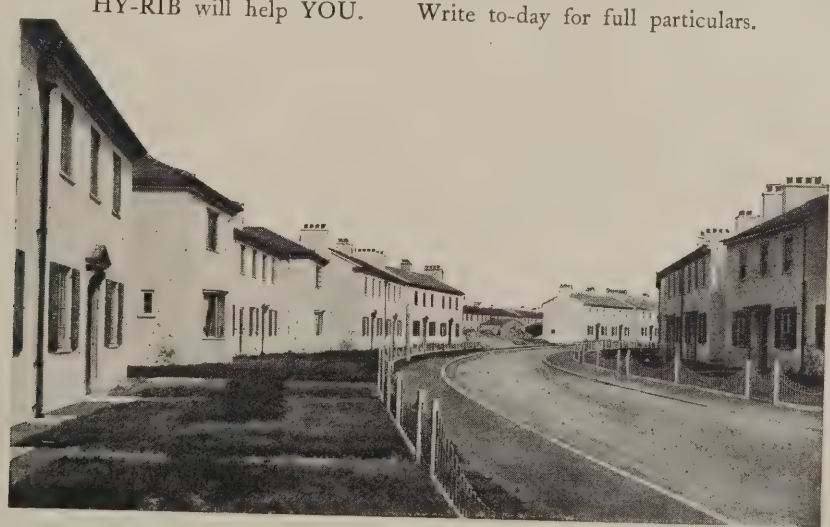
Can they get them? - Yes.
Are they getting them? - Yes.
Then where? (See below.)

A first list of official housing schemes on the "Dorlonco" system wherein "Hy-Rib" is used for construction of walls, floors, roofs, ceilings, etc. :—

BIRMINGHAM.
DONCASTER.
GLOUCESTER.
LEYLAND.
DURHAM.
WHARNCLIFFE.
ACTON BRIDGE.
BOLTON.
DORMANSTOWN, REDCAR.
GRIMSBY.
MIDDLESBROUGH.
WARRINGTON.
DERI.
HATFIELD.
ASHINGTON.
STURRY.
WALKERGATE.
EARSDEN.
ROTHERHAM.
WEST BROMWICH.
LIVERPOOL.
MALTBY.
ROSSINGTON.
CHISLET.
PONTELAND.
SANDAL.
PENKETH.
KIRK SANDELL.
CASTLEFORD.
CHESTERFIELD.

Building is in progress in all these schemes. Many houses are already completed. Hy-Rib house construction is very speedy, and is approved by the Government.

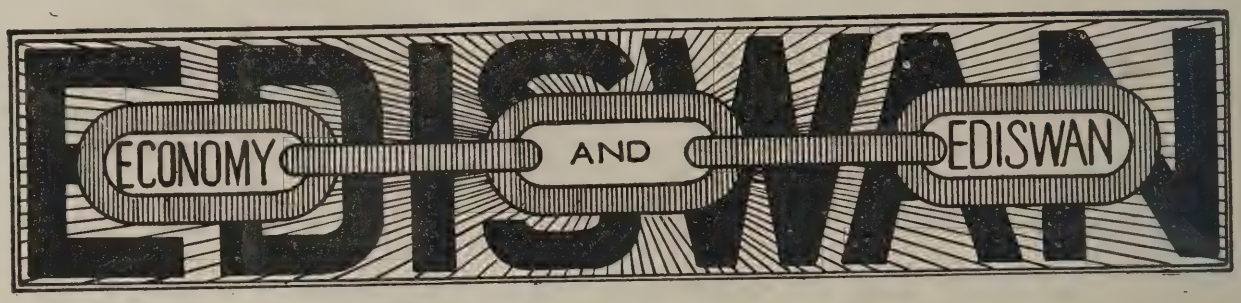
HY-RIB will help YOU. Write to-day for full particulars.



A whole street of HY-RIB houses, many already occupied. Dormanstown Housing Scheme. Architects: Messrs. Adshead, Ramsey & Patrick Abercrombie.

HE TRUSSED CONCRETE STEEL CO., LTD.,

, Truscon House, Cranley Gardens, South Kensington, S.W.7.



"ECONOMY" and "EDISWAN" are linked together in the

ROYAL EDISWAN

HALF WATT TYPE

LAMPS.

THE Half Watt type lamp is the latest development in Lamp manufacture, and has nearly forty years experience behind it.

THEY have a filament of high intrinsic brilliancy burning in Nitrogen, instead of in a vacuum. The current consumption is extremely low, being only about half a watt per candle. Thus a light of 100 candle power can be obtained for 16 hours for one unit. With electricity at 6d. per unit, this works out at 2⅔ hours at a cost of one penny.

HALF Watt Lamps are especially suitable for indirect or semi-indirect Lighting, giving perfectly even and shadowless illumination, freedom from glare, and eliminating all eye-strain.

SEND your Enquiries for Lamps, Fittings, Accessories, Wires and Cables, and in fact, EVERYTHING ELECTRICAL to:—

The Edison Swan Electric Co., Ltd.,

PONDERS END, MIDDLESEX.

Telegrams and Cables: "Ediswan, Enfield." Code: Western Union A.B.C. (5th Edition).
Telephone: 520 Enfield (6 lines).

London Showrooms: **123-125, Queen Victoria Street, E.C.4, and 71, Victoria Street, S.W.1.**

BRANCHES—

BRIGHTON, BRISTOL, BELFAST, BIRMINGHAM, CARDIFF, CORK, DUBLIN, DUNDEE, GLASGOW, HULL, LEEDS, LIVERPOOL, MANCHESTER, MIDDLESBROUGH, NEWCASTLE-ON-TYNE, NOTTINGHAM, SHEFFIELD, SOUTHAMPTON, SWANSEA

AUSTRALIA: MELBOURNE, SYDNEY, BRISBANE, ETC.

The Week's News

(Concluded from page 256)

Pewsey Housing Scheme.

The number of houses required is one hundred.

Martley Housing.

One hundred and fourteen houses are about to be erected by the R.D.C.

Housing at Bognor.

The first sod of the new housing scheme of the Bognor U.D.C. will be cut on September 14.

100 Houses for Upholland.

One hundred houses are to be erected on the Newgate and White Lion site by the R.D.C.

New Parish Hall for Kilburn.

A parish hall at Kilburn R.C. Church, to cost £7,000, is being built of reinforced concrete.

Church Alterations at Mold.

Alterations are to be carried out at the English Presbyterian Church, Northop Hall, near Mold.

Private House Building at Blackpool.

Plans for the erection of fifty houses by private enterprise have been approved by the Blackpool Corporation.

Thame Housing.

The scheme of the R.D.C. provides for the erection of thirty-two houses. Mr. James Wells, of Oxford, is the architect.

Housing at Godstone.

The Godstone R.D.C. are applying to the Ministry of Health for sanction to a loan of £4,300 for the erection of houses.

Boston and Direct Labour.

Application is being made by the R.D.C. for sanction to a loan of £5,500 to erect houses by direct labour at Kirton, Lincolnshire.

Housing at Stafford.

The Stafford R.D.C. have decided to apply to the Ministry of Health for sanction to borrow £14,000 to carry out the housing scheme approved by the District Commissioner.

Housing at Ebbw Vale.

The Ebbw Vale U.D.C. has accepted the offer of Mr. Fredk. Mills, chairman of the Ebbw Vale Company, to build 1,000 houses in a year.

Dornoch's New Houses.

The Dornoch housing scheme, one of the earliest set agoing in the Highlands, has been formally inaugurated by the Duchess of Sutherland.

Housing at Llanfrechfa.

Plans of sixty working-class dwellings, proposed to be erected by the U.D.C. at Cwmbrân, have been approved by the Housing Commissioner.

Conversion at Bognor.

The Bognor U.D.C. have decided to purchase for conversion into flats the women's portion of the Merchant Taylors Home. The purchase price is £7,250.

Welshpool Housing.

Application is being made to the Ministry of Health by the Welshpool T.C. for sanction to a loan of £61,364 in connection with the Waterloo housing scheme.

Claygate Housing Scheme.

A start has now been made with the erection of the sixteen houses in Rythe Road, Claygate, which form part of the forty-four houses included in the scheme for the Esher and Dittons U.D.C. The foundations for twelve of the buildings have been laid, and the brickwork in connection with eight of the houses has been begun.

New Sunday School for Silksworth.

Plans of a new Wesleyan Sunday School for Silksworth have been passed by the Houghton R.D.C. The late Alderman W. E. Weightman left £2,000 towards the cost.

Trades Hall for Eastwood.

At a public meeting held at Eastwood, and convened by the Trades Hall Committee, it was decided to proceed with the scheme for the erection of a working-men's club.

Stamford's Houses.

Stamford Town Council have accepted an amended tender from Messrs. Simms, Son, and Cooke, Ltd., Nottingham, for the erection of thirty houses at a cost of £30,270.

Housing at Carlton.

Carlton U.D.C. have decided to apply to the Ministry of Health for permission to borrow £12,195, plus the cost of the site, for the erection of twelve houses in Conway Road.

An Old Church Door.

The Victoria and Albert Museum have just purchased from Mr. F. W. Speaight's Hatfield Collection an old church door, upon which is some exceptionally fine Thirteenth Century iron work.

Housing at Halifax.

Provisional approval has been given by the Ministry of Health for the erection of 1,150 houses. Approval has also been given for the laying out of sites in Highroad Well, Claremont Road, and Sandbeds.

Plympton Housing Progress.

Plympton R.D.C. have decided to erect fifty parlour type houses on the Stone Estate, Plympton. The Ministry of Health have approved the Archers Fountain (Newton Ferrers) site, and sanctioned a loan.

Retford War Memorial.

It has been decided that the war memorial shall be an eight-sided cross, 25 ft. high, placed within an octagonal space immediately in front of the Town Hall. It will cost at least £1,500. There has also been subscribed £2,100 towards the hospital scheme.

New Wharf at Saint Marc, Haiti.

A contract has been made between the Government and the "Société Commerciale d'Haiti" for the construction of a wharf at the port of Saint Marc. British firms desirous of offering construction materials should communicate direct with Mr. Frankel, Société Commerciale d'Haiti, Port-au-Prince, Haiti.

Housing at Easington.

Several houses are to be built at Easington Colliery, and plans submitted by the Horden Collieries, Ltd., for the erection of sixty-two houses have been approved. The R.D.C. propose to erect a large number of reinforced concrete houses at Thornley and Wheatley Hill, and to erect in brick twenty houses respectively at Trimdon, Shotton, and Seaham.

Reading Housing Scheme.

Some twenty-four of the houses being erected on the Shinfield site under the Reading housing scheme are nearing completion. The houses have been fitted up with every modern convenience, and numerous devices have been introduced for the saving of labour in the home. Of the 126 houses contracted for on the Shinfield Road site, 102 are in the course of erection.

Melton Housing.

The Ministry of Health have approved the borrowing by the Melton U.D.C. of £1,900 for the purchase of the Nottingham Road and Welby Lane sites, upon which to erect working-class dwellings.

Royal Sanitary Institute.

We have received from the Royal Sanitary Institute a syllabus of courses of lectures and demonstrations for sanitary officers, meat and food inspectors, and women health visitors and child welfare workers for the autumn term, 1920, which begins on Monday, September 20. A copy of the syllabus may be obtained on application to the secretary, 90, Buckingham Palace-road, S.W.1.

Roman Wall Pilgrimage.

The Northumbrian and Cumbrian antiquaries have made a "pilgrimage" to the Roman Wall and journeyed along its course from the Tyne to the Solway. The first occasion on which the "pilgrimage" was made was as long ago as 1849, when it was undertaken by a party of antiquaries under the guidance of the late Dr. Collingwood Bruce. The tour was repeated in 1886. Although Dr. Bruce died in 1892 he had founded a tradition, and the "pilgrimage" was again made in 1896, and gradually came to be observed every ten years. The arrangements are made by the Society of Antiquaries of Newcastle and Northumberland, and the Westmorland Antiquarian Society, and on each occasion a distinctive badge is worn. The last visit was paid in 1906, and the next would have taken place in 1916, but owing to the war it was not possible to make the arrangements until the present year. The "pilgrimage" has always been of the greatest interest to antiquaries, not only in the North of England but also in Scotland, in view of the many points of comparison with the Wall of Lollius Urbicus across the Forth and Clyde isthmus.

Houses at Boldon.

The first sod has been cut in connection with the Hubert Street housing scheme of the South Shields R.D.C. Provision is made for the erection of 500 houses in all, of which 150 have a living-room and scullery on the ground floor, and three bedrooms on the first floor. There are 100 with parlour, living-room, and scullery with bathroom on the ground floor and three bedrooms on the first floor. Fifty houses are to be erected with parlour, living-room, and scullery, with bathroom on the ground floor, and four bedrooms on the first floor. In general appearance the houses are very attractive, with selected bricks up to the first-floor level and roughcast to the overhanging eaves. Two and three light casement mullion windows are used in the principal rooms, whilst the staircase, bathroom, etc., are lighted by single windows of the ordinary type. Each house has a drying ground at the back and fronting the roads of 20 ft. in depth, and in front of the house an allotment garden is provided with an average area per house of 200 square yards. The interior fittings and the sanitary accommoda-

tion are of the latest type as approved by the Ministry of Health, and are placed in the most convenient places for the easy working of the household.

War Memorial for Oakham.

A war memorial cross is to be erected at Oakham at a cost of about £1,900.

Corrigenda.

A correspondent writes to correct a slip of the pen which occurred in our issue of August 25, where, on page 207, "Stoke Davarel" should read "Stoke Damarell." In our issue of August 18, under the heading, "Competition Award" (page 190), "Mr. A. F. E. Paley" should read "Mr. A. F. E. Poley."

Housing in South Wales.

At Treharris, altogether 200 houses are required, and plans have been prepared and approved for the erection of eighty-eight houses as soon as funds have been obtained. These eighty-eight houses will cost approximately £99,000, and the Ocean Coal Company have promised to contribute one-third of this amount on condition that the remaining two-thirds are subscribed by the miners and general ratepayers of Treharris. In the South Wales housing region at the end of July there were signed contracts for 4,468 houses.

The Onslow Garden Village.

On a site a mile square on the Hog's Back, near Guildford, work is steadily proceeding on the erection of the new Onslow Garden Village. Development is taking place on co-partnership lines by a public utility society, and direct labour is being used to carry out the work. In laying out the site 300 acres have been allocated for small holdings, 200 acres for subsidised houses in the proportion of five to the acre, 50 acres for large private houses, and 50 acres are to be used for industrial buildings. The society also contemplates the construction of a special station and sidings from the Farnham and Alton line. In planning the houses every effort has been made to keep abreast of the standard of living likely to take place within the present generation. The majority of the houses are constructed of 9 in. brick walls, rough cast, with roofs of local tile, and having casement windows with certain lights in each top hung to provide more efficient ventilation. Among the labour-saving devices in each house are gas fires and a gas copper. A number of pise-de-terre bungalows are also in course of construction.

Bungalows for Birmingham.

The Housing Commissioner's officials at Birmingham, faced with the shortage of houses, have decided to build for their own use a number of bungalows of most attractive design, which while conforming to the regulations of the Ministry of Health and therefore eligible for the free Government grant, possess a number of special and distinctive features. Each house will contain, in addition to a comfortable dining-room, a sort of miniature "baronial hall," 16 ft. high with timbered roof and a small "minstrels" gallery at one end. Four bedrooms are provided, with storage accommodation in the roof. The kitchen is planned for the comfort, as well as the convenience, of the servants, and, as might be expected, the expert knowledge of the housing staff has enabled them to incorporate a large number of labour-saving devices. Constant hot water, for both washing and heating, is provided by a slow-combustion boiler, and gas fires are fitted in most of the rooms, the fumes being carried off by flues concealed in the wall-cavities and ending in special ventilators under the eaves. The total cost of erection in rough-cast brick and breeze blocks, including connection of gas, water, and drainage, is £940, plus the Government subsidy.

British Empire Exhibition.

The House of Commons have resolved, in Committee, to authorise the payment out of moneys provided by Parliament of any sums not exceeding £100,000 required for the fulfilment of any guarantee against loss resulting from the holding of a British Empire Exhibition given by the Board of Trade. Mr. Kellaway, in moving the resolution, stated that the idea of the exhibition originated with the late Lord Strathcona in 1913, but the outbreak of war prevented it being carried out for the time being. Since the armistice it had been revived not only to fulfil the idea in Lord Strathcona's mind, but to celebrate the part which the Empire played in the war. The guarantee would only become operative if £500,000 was forthcoming from private sources, and there was every reason for believing that that sum would be forthcoming. Already what might be called small working models of this exhibition had been held. At one of them there was collected from different parts of the Empire every form of timber necessary for a civilised state, and as the result a great deal had been done. In view of indications of a lull in trade activity it was necessary that manufacturers should find new markets, and the greatest hope for British trade was in the Empire. It was rather a melancholy reflection that during the few years preceding the outbreak of war the share of this country in Empire trade had relatively fallen off. Within the boundaries of our own Empire we could find everything that was necessary for civilised man.

Manchester Builders and Dr. Addison.

The Manchester, Salford, and District Building Trades Employers' Association has, in a statement, replied to the assertion of the Minister of Health (Dr. Addison) of the existence in Manchester of a building combine to force up housing prices. The association repudiates the charge, and denies that there has at any time been anything to justify Dr. Addison in making it. The statement adds: "The present Housing (Additional Powers) Act is of little value. . . . . In effect, the Act becomes nullified, owing to the fact that corporations are unwilling to exercise their powers, especially when such have a tendency to restrict the rateable value of the district, and particularly when adjoining authorities are unwilling to act in conformity." The employers disclaim that there is much luxury building going on within the district; but there is, however, a fair amount of industrial work, which is, of course, absorbing a considerable amount of labour. The statement concludes: "If the Ministry is sincere in its efforts to build houses it will be well advised to make it illegal for firms to attract labour to other classes of work: make available a larger percentage of bricklayers now working on the permanent staffs in engineering firms, corporations, mills, and warehouses; and see that employers engaged upon housing in one district do not attract labour from another area where it is equally required for the same purpose. If this were done, instead of shifting the blame to other people, and at the same time condemning them for their efforts to be of service, the Ministry would solve many of the difficulties in the housing problem, and the community would see that the building industry, when given a fair chance, would quickly increase the production of houses."

Dagenham Garden City.

Approval has been given by the Ministry of Health to the lay-out of the Dagenham Garden City, one of the Housing schemes of the London County Council. The property, which extends to some 3,000 acres is situated in the urban districts of Barking Town and Ilford, and in the rural district of Romford. The work of development will begin with the north-western section, which extends to about 440 acres and is bounded on the north by the Great Eastern Railway, on the west by the Mayes Brook, Dunkeld Road, and Goodmayes Recreation Ground, and on the south by Longbridge Road. On the east it is proposed to construct a new road running due south from Chadwell Heath Station (G.E.R.), and crossing Vallance Farm. The lay-out of the north-western section provides ninety-seven acres for 1,42 working-class cottages, and thirty-three for cottages other than working class. It is understood that valuable sites will be available for letting on lease for the erection of larger houses, for trade premises, places of amusement, etc. The division of the estate under the general scheme is as follows: Park, 150 acres; playing fields fifty acres; open belt (including sixty acres for playing fields and 150 acres for allotments), 425 acres; further allotments, 10 acres; twenty-six school sites, sixty-eight acres; arterial and ring roads, 165 acres; existing properties and adjoining land 252 acres; land for commercial purposes 125 acres; sites for working-class cottages 1,215 acres; sites for cottages, other than working-class, 450 acres.

Competitions Open

Wakefield.

Cenotaph to the memory of the Fallen. Apply Town Clerk.

Lille.

Extending and beautifying the city. Entrance fee, 300 francs. Available for premiums, 128,000 francs. Apply to Mayor. Competition closes October.

Liége.

Monument to commemorate the defence of Belgium against the German invasion. One million francs has been subscribed for the project. Apply M. Léon Maréchal, Bureau des Beaux Arts, Hotel de Ville, Liége, Belgium.

York Minster.

Memorial to officers and men of the K.O.Y.L.I. in York Minster. Cost not to exceed £2,500. Premiums: 1st, the commission, and £100 to be divided among four competitors. Assessors, Messrs. Walter Tapper, H. V. Lanchester, and Robert Atkinson. (For full particulars see our issue of July 28.) Drawings to 34 and 35, Bedford Square, W.C.1, by September 14.

Johannesburg University.

His Majesty's Trade Commissioner at Johannesburg informs the Department of Overseas Trade that the design for the new University buildings which has been accepted is that of Mr. Frank Emley, F.R.I.B.A., of Trust Buildings, Pritchard Street, Johannesburg, one of the best known architects in South Africa.

RUBEROID

Roofing

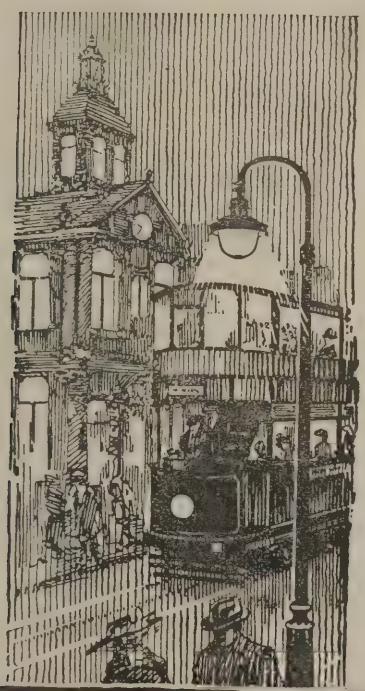
RUBEROID combines all the essential requirements of a flat roofing. Low in prime cost, it is durable, unaffected by heat or cold, yet flexible, and will not crack or run. Is proof against vibration, and withstands foot traffic. Light in weight yet substantial. Needs no metal connections, and is equally efficient whether laid on boards or concrete, on flat, sloped or curved roofs. Although the least expensive it has proved during the past 29 years to be the most reliable form of flat roofing.

Our most convincing testimony is the buildings we have roofed. The premises for Messrs. Sutton & Co., Cork, illustrated hereunder is but one of the thousands of buildings covered with Ruberoid. Our Catalogue, illustrated with other examples of our work and containing full information, will be sent on request.

The Ruberoid Co., Ltd., 1, Waterloo House, 81-83, Knightrider St., E.C.4

Branches:—
Newcastle.
Birmingham.

Branches:—
Leith.
Dublin.



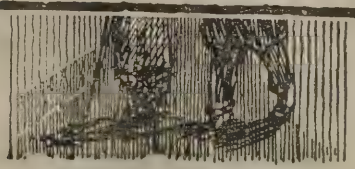
All Types and Sizes

Municipal lighting comprehends the illumination of streets, town halls, offices, tramcars, etc. For these multifarious applications Mazda drawn wire Electric Lamps are pre-eminently suitable. Made in sizes from the lowest to the highest candle-power, and in types appropriate to every form of municipal service. Moreover, Mazda Lamps are unsurpassed in the important qualities of brilliance, economy and physical strength.

Lighting Advice Free.

MAZDA
Gasfilled
ELECTRIC LAMPS
(Half-Watt Type)
Made in Rugby.

For Better Municipal Lighting



1206

The BRITISH THOMSON-HOUSTON CO LTD
MAZDA HOUSE, 77, UPPER THAMES STREET, LONDON, E.C.4
Works: Rugby . . . . Branches in all large Towns

CONTENTS.

Edited by PROFESSOR A. E. RICHARDSON, F.R.I.B.A.

Notes and Comments: "Is it a New World?"; A Fragment of the Parthenon Frieze; Gems from the Labour Congress: 281; The Art of E. A. Rickards; Labour and Housing; Leaning Tower and Earthquakes; The Site of Cox's Bank; L.C.C. School Design; Glasgow Housing Exhibition 282

Architectural Causerie: E. A. Rickards. By Aero 283

The Week's News 284, 306

The Cunard Building, New York ... 285

Architects and Housing. By Percy J. Waldram, F.S.I. 289

Dickens' Haunts to be Pulled Down. By H. Johnson 293

Correspondence: School Design; Sanitation of Theatres 293

Enquiries Answered 294

The Coronation Stone... 294

Housing Progress 299

Inns Old and New 299

National des Universities Ecoles Française 300

Society of Architects' Fellowship Class 300

Competitions Open 300

Glasgow Housing Exhibition... ... 303

Trade and Craft 304

Current Prices of Materials ... xix, xx.

Electrical Notes ... ... xxii.

Complete List of Contracts Open xxiv., xxvi.

ILLUSTRATIONS:

George Edmund Street 279

French Façades. 7.—Collége de France, Paris. Chalgrin, Architect 280

The Cunard Building, New York. B. W. Morris, Architect 285-6

Modern American Architecture. 8.—The Cunard Building, New York 287

Air Views of Buildings. 4.—Hampton Court, The Palace ...

Memorial in White Marble (H. H. Martyn and Co., Ltd., Cheltenham) ... ...

Memorial in White Marble, with Bronze Bust (H. H. Martyn and Co., Ltd., Cheltenham) ...

Architects' Working Drawings. 17.—Typical Cottages to be erected by Dumbarton County Council. Joseph Weekes, Licentiate R.I.B.A., Architect

Radnorshire Arms Hotel, Presteign (from a Drawing by Jasper Selway) 299

Modern Domestic Architecture. 16.—House at Abingdon. Alfred W. S. Cross, M.A., F.R.I.B.A., and Kenneth M. B. Cross, B.A., Architects

House at Abingdon ... ...

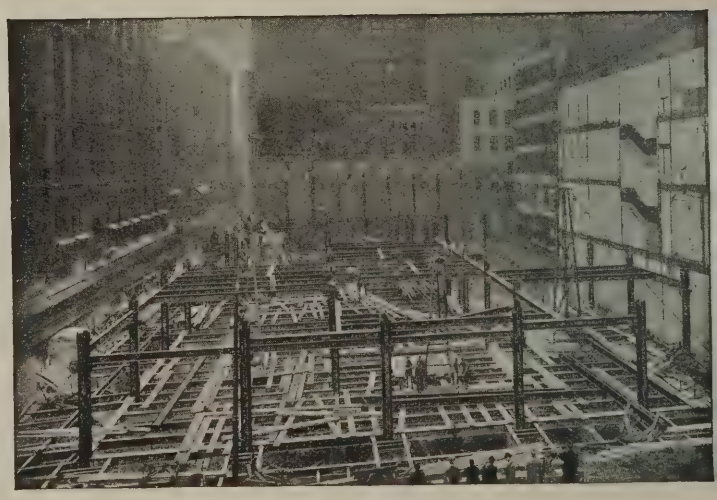
The "Advance" Filing Cabinet

"Industria" Water Heater: Suggested Method of Fixing...

DAWNAY DEFINITIONS.—1.

RECONSTRUCTION.

RECONSTRUCTION is simply the building-up again of trade, bearing in mind the lessons of the last four years. Energy and a firm purpose are the essentials. These principles have been applied to our business—hence this announcement asking for your enquiries.



ARCHIBALD D. DAWNAY & SONS, Ltd.,

Telephones: Battersea 1094 (3 lines). **Steelworks Road, Battersea, S.W.11.** Telegrams: "Dawnay, Battsquare, London."

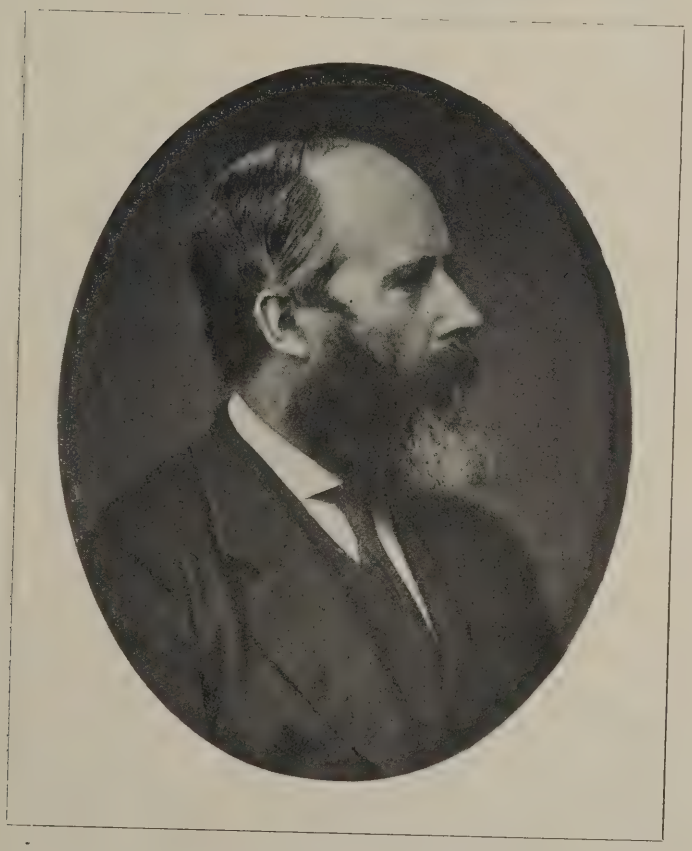
Telephone: Cardiff 2557. **And at East Moors, Cardiff.** Telegrams: "Dawnay, Cardiff."

sday, September 15, 1920

Volume LII. No. 1341

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



GEORGE EDMUND STREET.

George Edmund Street was born in 1824 and died in 1881. His career, therefore, coincided fairly closely with the period of the "Gothic Revival," which really reached its grand climacteric in the Royal Courts of Justice, which he designed in mediæval mode, he being then just turned forty years old. This building is generally regarded as illustrating very vividly the truth of the saying, "How far high failure overleaps the bounds of low success." It may be at war with its environment, false in conception, and inept in some of its details, but no one seriously denies that, take it for all in all, it stamps its author as a great architect. Street's "Gothic Architecture in Spain" was re-published as recently as 1913.

27-29 Tothill Street, Westminster, S.W.1.

French Façades. 7.—Collége de France, Paris

Chalgrin, Architect

The Collége de France stands on the site once occupied by the colleges of Tréguier, Láon, and Cambrai, which were pulled down to make room for it. Louis [illegible] by Chalgrin in 1774, and it was enlarged in 1831. The statue is that

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.
'ednesday, September 15, 1920
Volume LII. No. 1341

Notes and Comments

"Is it a New World?"

THE letters in which this question is being daily debated in the spaciously hospitable columns of the "Daily Telegraph" contain much more common sense to the square yard than is usual his sort of Silly Season "perilous stuff." While it is vider scope than are most discussions of similar origin, aturally finds much material in the subsisting relation- between Capital and Labour. In the course of the espondence many good points are clearly and erly expressed. Miss Daisy Vashti Hobbs says, er quaintly: "Capital sweated Labour previously air), and now Labour is sweating Capital (unfair). Capital and Labour work properly together, every- doing his best, not taking mean advantages of each r, and then bit by bit, day by day, year by year, we find strife at home and abroad getting lesser and r, and each will gradually learn to trust the other." e simple, is it not? But between the principle and practice how great the gulf! Here is a further useful m, in which another correspondent puts the case t as tersely as possible: "Each loves himself and his best; . . . it is a law of nature. . . . It this primitive instinct which in past generations so iently led to the remorseless grinding of the lower s when as yet the arm of the law could afford them inadequate protection. In our own day we are ssing the opposite phase in the extortionate nds of sections of the labouring classes, who have to a knowledge of their power of throwing the ine of State out of gear, and of thereby, as they imposing their will on the community." That is a escription of the morass in which we are all flounder- out the question is how to get out of it on to the round that provides the path of progress. When considered that we have arrived at this state of largely as the result of class isolation, it follows very possible means should be taken to prevent so an influence from continuing. As a first step we recommend the closer and more friendly associa- f architect, contractor, and operative. Will not chitects make an effort to break down the barriers te? How effectually they could supplement the nt efforts of those few firms of building contrac- no are winning the confidence and respect of their rees by showing a sympathetic interest in their velfare!

ragment of the Parthenon Frieze

official report issued last week conveys the very e impression that the British Museum is almost gain. It has got rid of such intruders as the y of Friendly Societies, has cleared out from the nt of the new wing the effects of German prisoners and has got back the collections that had been ed at Malvern, at Aberystwyth, and in the Tube Station under the West Central Post Office. Acquisitions are looking up again. Sir Arthur Evans has presented his father's fine collection of Early British and other Celtic coins; the most important part of Sir Hermann Weber's magnificent collection of Greek coins has been purchased (with the aid of a special grant of £10,000 from the Treasury); and a portion of a slab of the frieze of the Parthenon has been presented by Mr. J. Dumville-Botterell. This precious fragment was discovered several years ago on a rockery in Essex! When the Greek coins are exhibited architects will examine them with great curiosity, for the images and inscriptions on coins have added considerably to our knowledge of the art of the ancients, not excepting the appearance of buildings of which there is no other record.

Gems from the Labour Congress

Trade-union Congress "facts and figures" are often sensational rather than trustworthy. Those adduced by Mr. G. Hicks, of the Operative Bricklayers, are probably more sound than his deductions from them. He is perhaps right in saying that whereas before the war forty per cent. of the building trade workers were engaged in housing, to-day there were less than ten per cent., but there is very little truth and less sense in his observation that "People who had made money were deliberately extending their factories to enhance their value and to dodge taxation." Such fatuous utterances simply strengthen the case of those who declare that Labour is not to be trusted with authority. This ground of opposition to factory extension is even sillier than any that has been urged hitherto by the Ministry of Health. It is astonishing and disconcerting to see anywhere such gross ignorance of the rudiments of economics. To what better purpose could money be applied, even from the workers' point of view, than that of productive investment through industrial extension. But distressing short-sightedness—or is it a wilful perversity and "cussedness"?—is now more than ever predominant among the misleaders of the workers. It is not surprising that the speaker who dropped these pearls of wisdom on factory extension should have followed them up with a repetition of the stale old slander of an anti-housing ring. We have repeatedly shown that, so far as the organised builders are concerned, this accusation is utterly false. Nevertheless, Mr. Hicks does not hesitate to revive it. "The building trade," he is reported as saying, "would welcome every attempt to extend the principles of direct labour in order to do away with the contractor and the ring that was formed around housing to-day. To take the matter out of the hands of these people was the only solution." The great charm of these labour congresses is that the speakers at them are always posing in an attitude of stern rebuke—are always most positive when they are most preposterously wrongheaded, and the more terrific the frown of virtuous indignation they assume,

the more certain is it that they are on the point of formulating some contemptibly mean simulacrum of policy. Naturally the contractors all object to be eliminated; but it is to be remarked that they are taking with ominous quietness the many threats and the impending attempts —through the builders' leagues and otherwise—to take the bread out of their mouths. What is the explanation of their strange silence under all these railing accusations? It is, we believe, their confidence that they can afford to await the early and complete breakdown of the league system of handling contracts.

The Art of E. A. Rickards

Of all the many tributes to the talent of the late Mr. E. A. Rickards none has excelled in insight the appreciation signed "J. B." in the "Manchester Guardian." "J. B."—the initials will be recognised as those of an exceptionally brilliant journalist and art-critic—is of opinion that Mr. Rickards "was one of the outstanding architects of his time, a brilliant draughtsman, an ingenious planner, and a bold and gallant experimenter. In him the Baroque found perhaps its best exponent. Belcher ('with him,' as lawyers say, Beresford Pite) began the modern expression of the Cavalier spirit in architecture in that jewel of London City buildings—the Chartered Accountants' Hall in Moorgate Street. Rickards carried it further, but his tragedy was that the Fates doomed him to express it through two religious buildings—the Wesleyan Central Hall, Westminster, and the Christian Science Church in Curzon Street." Deptford Town Hall "J. B." regards as one of the finest things of its kind, and the Hull School of Art as exemplary of its class; but he holds that Rickards reached his best in one of his least important works—the art gallery of Colnaghi and Obach in Bond Street. "This I think the best art gallery in Europe," combining "opulence and taste with a touch of refined swagger that perfectly expresses the Bond Street idea." That is a most felicitous piece of criticism; and equally convincing is the observation that Rickards could have designed a picture-palace or a theatre that the dullest man in the street would have recognised as the work of a genius and as the *ne plus ultra* in that type of building. But, dying at the age of forty-nine, and with several precious years out of that short span consumed by the war, Rickards never got the opportunity to become an exemplar in cinema design or the greatest theatre architect of his day. Given health and opportunity he would easily have been either or both. Those who have seen the collection of his drawings now being prepared for publication realise perhaps more clearly than is otherwise possible that by his death we have indeed lost a rare genius.

Labour and Housing

Is the dilution problem solved? In last Monday's "Daily Chronicle"—a newspaper that is supposed to be closely in touch with the Government—it was confidently proclaimed, in a leading article, that the chief difficulty which has been recently engaging the attention of the Government in regard to the housing problem—that of labour — has been overcome. According to the "Chronicle," the several parties have agreed upon a compromise, and the Building Resettlement Committee undertakes to urge its acceptance upon the trade unions concerned. It is now agreed that recruiting for the building trade shall be accelerated by increasing the number of apprentices, including older men up to twenty-six years of age, and that a graduated scale of wages shall be paid, such as may attract adult workers. It is further agreed that measures shall be taken to ensure that housing schemes shall have the first call on labour. Government will not guarantee payment on account of stoppage through bad weather, but a scheme of compensation for bad days is to be arranged between employers and employed.

Leaning Tower and Earthquakes

"Earthwork in Tuscany"—Mr. Maurice Hewlett w pardon this perversion of the title of one of the mo charming of his many delightful books—is just no suggestive of nothing less horrifying than the rece earthquakes which have affected Florence, Pisa, a Spezia in Tuscany, and in which three hundred liv have been lost. It is remarkable that the shocks d most damage in villages and small towns, the buildin in the larger towns coming through the ordeal extreme well. If eye-witnesses and the newspaper reporte who have waylaid them are to be believed, the conduct the Leaning Tower of Pisa was noble if eccentr "Numerous witnesses assert," says the Rome correspo dent of the "Daily Mail," "that they saw it sway co siderably and then resume its normal slope of 14 ft. fr the perpendicular. Examination has failed to rev any change." Dear old Tower! "E'en its failings le to virtue's side." For six hundred years or more it h defied all the forces of destruction, if not the laws gravity. One never ceases to marvel at the daring a resource of the architect who, having built two stor out of the eight or more intended, was betrayed by foundations, but had the courage to give the remain of the building a graduated tilt on the north side to c rect the sinkage on the south. That during the rec earthquakes many persons saw the tower rock and ri itself like a good ship in a storm is possibly true, althou the extent of the movement seems to owe something the vivid southern imagination.

The Site of Cox's Bank

Service men, who regard "Cox's" as their foster mother, will hear with mixed emotions of the projec sell the freehold of the historic premises at Cha Cross. Messrs. Cox, however, are not going far aw They have decided to build new premises at the co of Pall Mall and Waterloo Place, and running throug Charles Street. Bankers build well, and Messrs. may be trusted to act in the spirit of this very respect tradition. But how could one build meanly in Pall M

L.C.C. School Design

In publishing a week or two ago the school-des accompanying the draft scheme that the London Co Council is submitting to the Ministry of Education, omitted to state the name of the architect. The aut ship of the designs was not specified in the official d ment, but, by a very natural, and, as it happens, ent correct inference, has been generally attributed to G. Topham Forrest, F.R.I.B.A., Chief Architect to London County Council. On inquiry we are offic informed that Mr. Forrest is the author of all the sc designs shown in the draft. Indeed, they reveal unmistakably the hand of so accomplished an expe school-planning. His large experience in this cla work in the North and in Essex has made him a f rank specialist in it, and is of excellent augury fo quality of the schools he is to design for London.

Glasgow Housing Exhibition

As an announcement in our advertisement p reminds us, this present week sees the opening o great Housing and Health Exhibition at Glas Great success for it is already assured as regards the ber and interest of the exhibits, and it follows almo certainly "as the night the day," that the visitors w very numerous. They will, we trust, take full adva of this very convenient opportunity to examine th array of interesting and valuable publications that been specially selected for exhibition at our (No. 52, Avenue A and B), where they will be courte received by our representative, who will take ple in affording all possible information that falls withi scope.

Architectural Causerie: E. A. Rickards

THIS week I am using these columns to express the regard of his fellow-architects to the memory of E. A. Rickards, who was an artist to his finger-tips, a man of deep sincerity, and one who contributed much towards working a change for he better in the realm of building. Rickards was born worker. Those who knew him as a student at the Academy Schools perceived his genius. His extraordinary facility with the pencil stamped him as a man ead and shoulders above many a one who has since rrived at reputation and affluence.

* * *

At the time when the last desperate efforts of the Gothic school were being made, Rickards was worshiping at the shrine of Sir Christopher Wren. He studied e City churches, not in the spirit of the antiquary or ith the eyes of an ordinary student who selects specific eatures to be neatly drawn for future references, but ith the true fervour of an artist revelling in the reations of a master mind, and seeking to appropriate e essence of such works for his own purpose. All ondon was before this young man, and then there were reenwich, Westminster, Hampton Court, the cathedral ties, and, later, France and Italy. Rickards worked t his own salvation, relying upon his ability to draw d recast impressions. He was no mean student of rench history, an omnivorous reader of literature bearg upon the development of art in all countries—a taste no means confined to architecture—and a man ready r genial if slightly controversial discussion on a multide of subjects, ranging from Cotman's water-colours the intricacies of Savonarola's influence on the roque.

* * *

A quarter of a century ago, when the competition era s at its zenith, and when John Belcher, Professor resford Pite, and others were showing the uses to ich the Baroque theme could be put, Rickards, then a ung man of twenty-three, having exhausted the whole mut of the Renaissance in England, turned his atten- n to the voluptuous art of France and Italy, and for remaining years of his life never swerved from the egiance he had voluntarily given to the later phases of tinental expression.

* * *

Rickards can scarcely be called a classicist, for he had le sympathy with the rich simplicity of late-eighteenth- tury work, which he regarded as being cold yet king in sculpturesque qualities. While admiring thic he could never be brought to appreciate the metrical precision underlying its statement of conction and its resultant light and shade, the truth g that he never understood its emotional aspect. s amazing young man, gifted with splendid confice and the power to draw, sought the sun and the htest flowers with the unerring instinct of the bee. find him, at the period when the new buildings at diff fell to the care of his firm, basking in the warmth splendour of the monument built for Louis torze by Mansart. Everything henceforth must ur of the joint efforts of the sculptor and the archi- Light and shade alone mattered once the ramifions of the cellular arrangements had been deter- ed. In this Rickards set himself an almost impossible He attempted to achieve a romantic and original ding on an academic basis.

* * *

ickards's work at Cardiff has many fine qualities, but as elsewhere he to a great extent allowed his ability fine draughtsman to subordinate his sense of contive fitness, which was applied, however, to the regulation of his masses and the subordination of decorative accessories. To the lay mind, or even to the painter, the building at Cardiff produces a feeling of satisfaction. Just as a tourist would revel in the scale and scintillation of the Escurial at Madrid, so he would acclaim Rickards's work at Cardiff, which is essentially the work of a genius untrammelled by consideration of rules and ignoring elementary principles of composition other than the massing, and one in which the intrinsic merit of individual points of sculptural interest is marred by redundancy.

* * *

Following Cardiff came the Art School at Hull, a severely plain building; then the delightful town-hall at Deptford, a bright jewel in the drab setting of south-east London; and latterly the Wesleyan Central Hall at Westminster. Considering the difficulties of the programme devised for this building, which, studied in connection with the site, was overloaded, and in consequence reveals the overloading at salient points in the plan, Messrs. Lanchester and Rickards's plan was indubitably the best. Here, indeed, was scope for an artist-draughtsman—a new building to express the doctrines of John Wesley, almost opposite Wren's baroque towers at Westminster. Rickards, fresh from his labours at Cardiff, undertook the new work with zest, but he lost sight of the chief purpose of the building, mainly on account of the commercial aspirations of the body for whom he was building this church, but partly owing to his regard for richness of surface. From some points of view the silhouette of the dome is masterly, particularly when viewed from St. James's Park and from the narrow streets near Horseferry Road; but the several elevations of the building do not read in sequence when subjected to analysis; doubtless the addition of the campanili will do much to obviate this defect. The pity is that one of the architects will not see their completion.

* * *

We must consider the Wesleyan Hall to be the greatest of Rickards's efforts in London in point of scale, but it is not the most successful. The surfaces of the buildings are richly decorated with sculptural ornament of a high order, but the building by comparison with Archer's church of St. John's, Westminster—a building much plainer, but one having qualities of depth in its details—appears plain. Without doubt Rickards's masterpiece can be named to be Obach's in Bond Street—a commission that allowed his scope for his talents and enabled him to produce a design of character and expression eminently suited to its purpose.

* * *

No brief sketch can express the life-work of an artist: it is only possible to record outstanding impressions. The career of Rickards terminates an epoch that began with the successes of John Belcher and flourished concurrently with the revived interest in things of simpler expression. In the realms of draughtsmanship Rickards led his fellows. His sympathies extended to literature, music, and the stage. I have never met a man who more thoroughly understood grand opera or one who could expound the mysterious beauty of the Russian Ballet with greater lucidity.

* * *

If we had the ordering of our lives it is safe to say that Rickards would have chosen an outlet for his exceptional ability in the direction of theatre design. It would have been a real delight to enjoy a play in a theatre from his brain, and even those whose tastes incline to simplicity would have been forced to appreciate the airy rendering and fanciful conceptions of one capable of appealing to the senses as well as the understanding.

AERO.

The Week's News

New Sanatorium for Newcastle

Extensions, estimated to cost £12,000, are being made to the Children's Sanatorium at Stannington.

Civic Appointment for Scottish Architect

Mr. Andrew Scobie, architect, Dunfermline, Fife, has been appointed honorary Sheriff-Substitute for the County of Fife.

New Sheffield Sanatorium

Plans have been submitted to the Minister of Health for approval for the development of Norton House, Sheffield, as a sanatorium. The scheme is estimated to cost £87,727.

Nottingham War Memorial

A proposal is afoot to erect a war memorial, to cost £20,000, in the market place in the form of a Roman-Doric column, somewhat similar to the Duke of York's column near St. James's Park. It will be surmounted by a bronze figure of Peace.

Architectural Partnership

Mr. Herbert Freyberg, F.S.I., has been joined in partnership by one of his old pupils, Mr. G. S. Valentin, M.S.A., who was in practice at 18, Charing Cross Road, before the war. The firm have taken a set of professional chambers at 8, Gray's Inn Square, W.C.2, and eventually they will transfer to that address the whole of their work, which has been carried on for so long at 24, Cromwell Place, S.W.7.

New Hotel for Torquay

A new Palace Hotel is now being erected upon the site of Bishopstowe. The hotel will contain a handsome lounge leading from the entrance-hall, a commodious dining-room for 200 persons, with recreation, billiard, drawing, and smoking-rooms all on the ground floor, The flat roof of the hotel will be utilised for serving teas, etc., and will afford a superb view of the sea and coast-line, extending to Portland Bill some thirty-four miles distant.

R.I.B.A. and Mr. W. Eaton

The R.I.B.A. have sent us the following communication: "We are happy to be able to contradict the announcement made in the 'Journal of the Royal Institute of British Architects' of the death of Mr. William Eaton, A.R.I.B.A. The contradiction is made on the authority of Mr. Eaton himself, who is holding a prominent position in the office of the Ministry of Health Housing Commissioner at Cardiff, and is in the enjoyment of the best of health." We understand that the error was one of identity, the Institute having been notified of the death of an architect at Palmer's Green of the name of William Eaton, and it was erroneously assumed that he was the Associate of the Institute of that name.

Hanworth Garden Suburb

Alderman J. Roll has opened a model house and afterwards cut the first sod in connection with the proposed new garden suburb at Hanworth Park, Feltham. The area taken over is 450 acres in extent, and is most picturesquely situated, being well wooded. It is hoped to have 100 houses ready for occupation by March next and to complete the scheme—which provides for 3,000 houses—in about two years. A thousand of the houses will cost, approximately, £1,250 each, and 2,000, which are being built for the Hanworth Public Utility Society, Ltd., £950 each. All are being sold with the freehold of the land, and are designed to meet the requirements of the Ministry of Health, so as to secure the benefit the Government subsidy. The number of houses bei limited to eight to the acre, each house will have amp garden space of its own. It is proposed to utilise t fine old mansion on the estate as a club-house for t householders, and to make provision for tennis cour a swimming bath, and a gymnasium. Attached to t mansion is a fine old Dutch garden, which it is propos to retain.

The Housing Grant

Certificate "A" has now been issued by local autho ties in respect of 18,842 houses to be built by priva persons, and on completion they will be entitled to fi grants aggregating £4,522,190. Up to September grants amounting to £236,633 had been paid in resp of 1,137 completed houses.

The Sale of Houses

The Ministry of Health has just issued a memorand as to the conditions to be observed in drawing schemes for the sale of houses included in assis schemes on the plan of payment by results. T memorandum, No. 33, which has been issued in respo to numerous requests by local authorities, may obtained, price 1d., from H.M. Stationery Office through any bookseller.

Stone Age Sculpture

While on a visit to a Berkshire estate, Mr. Clem Edwards, M.P., found in the virgin soil of a gravel a carved flint stone, belonging to the Early Stone A It was the size of a large potato, and on it were carv obviously by hand, twelve distinct faces of prehist animals. Mr. Edwards has submitted his discovery the authorities at the Geological and British Museu who regard it as a perfect specimen, which may go to solve the question as to whether sculpture had infancy in the Early Stone Age.

Restoration of Furness Abbey

Barrow Corporation have appointed a special c mittee to consider the Government's scheme for restoration of Furness Abbey, recently given to nation by Lord Richard Cavendish. The scheme cost £25,000 and extend over ten years. It is propo in order to secure free access for the local public, Barrow should contribute £1,000 a year. Sir F Baines has appealed to the Corporation to create a pr dent for the co-operation of local authorities in worl preservation so urgently required as that of Fur Abbey.

Washwood Heath Housing Scheme

An important scheme for the development building estate near the Washwood Heath tram term is shortly to be submitted to the Housing and Es Committee of the Birmingham City Council. A p of ten members of the Birmingham Architectural A ciation, with Mr. J. P. Bridgwater (Ingal, Bridgw and Porter) as supervisor, has planned a scheme fo erection of 284 houses and shops on a triangular si 30 acres. The panel has made itself responsible fo lay-out of the land and the design of the houses, a prepared to undertake the completion of the sc through contractors. At the centre of the site prov is made for a sports ground, giving space sufficier football, cricket, and lawn tennis. A children's ground and allotments are other amenities, and on is set apart for a public building.

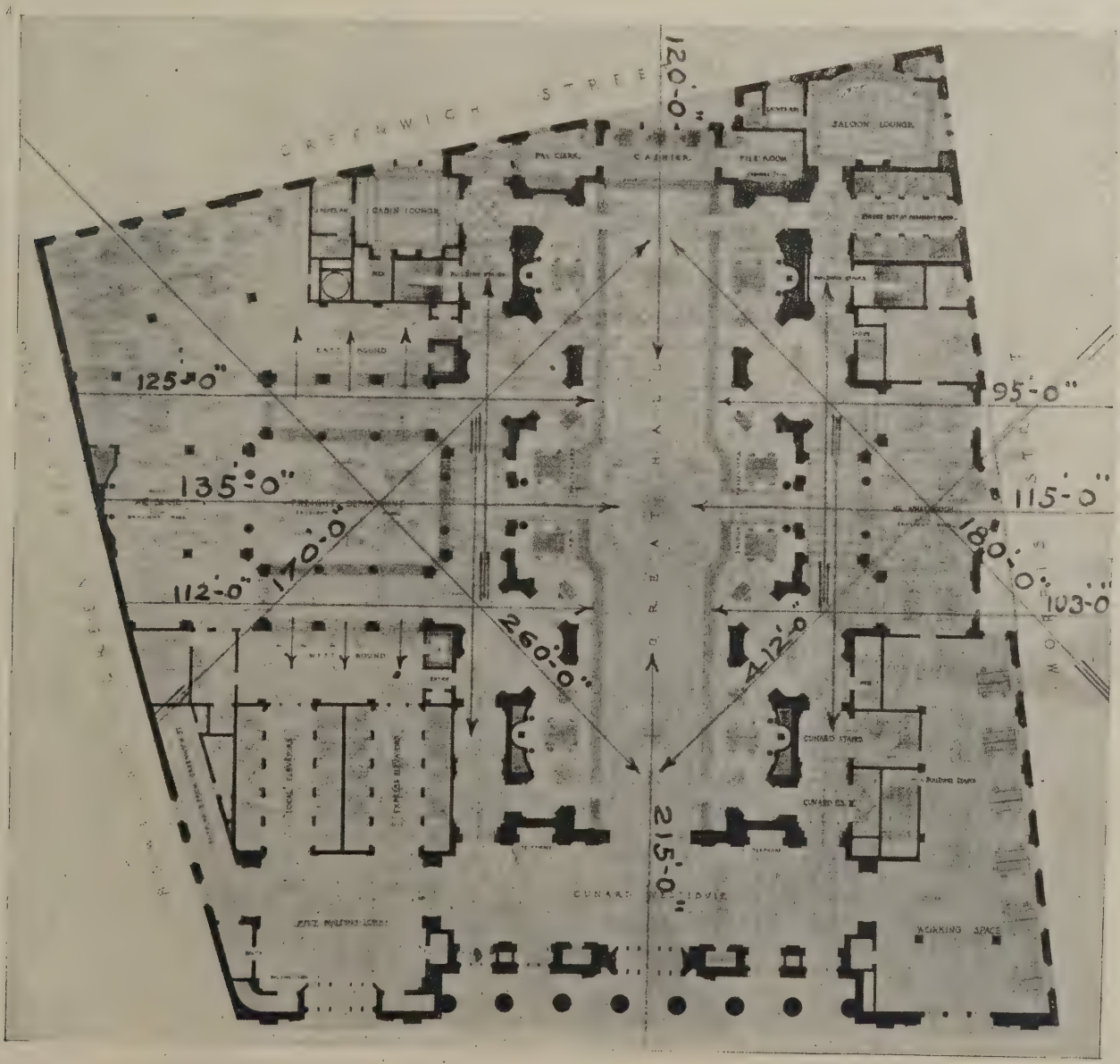
(*News concluded on page* 306.)

The Cunard Building, New York

SELDOM has a more difficult architectural problem been solved than that presented by the Cunard Building, now in course of construction in New York. The making of many preliminary tudies of plans and judging their commercial possibili-ies were matters of many months, and they were fre-uently laid aside owing to the heavy demands on the ime of Sir Alfred Booth, Sir Ashley Sparks, and their olleagues, in transporting troops and munitions in 1917 nd 1918; in fact, it was not until the end of June, 1919, hat preliminary studies ceased, and a commencement vas made on working drawings, specifications, and con-racts. Great complications were involved with regard o size, unknowable costs, irregularity of plot, untoward onditions of foundations, plus a tortuous, curving, teeply sloping subway, cutting through the property.

There was a very early indication on the part of the wners represented by their officials in the Twenty-five Broadway Corporation, that they meant to secure a horoughly studied result, and having secured their uilders, Todd, Irons, and Robertson, Inc., and their rchitect, B. W. Morris, with Carrère and Hastings as onsultants, they have consistently shown a spirit of o-operation and confidence, which is indicative of the modern method of attack upon a large building operation. Indeed, Mr. Morris, in the course of an article in the "Architectural Forum" of America, from which the following description and the illustrations are reproduced, states that the best possible results are secured when the builder, experienced, competent, and honest, is appointed at the same time as the architect. Irregularity of the streets in the portion of the city where the building is situated caused some complications in conditions of light and air.

A dumb-bell plan was finally arrived at for the following reasons: It was possible to provide a large open court to the south-west, admitting light and air to a large section of the building, giving warmth and cheerfulness in winter and cool breezes in summer. This scheme of plan also provided a maximum of frontage on Broadway and in that portion of the building facing Greenwich Street which overlooks the North River. It also massed a considerable rentable area in the north-westerly corner of the building opposite the unusually favourable light conditions afforded by the confluence of Trinity Place, Greenwich Street, and Morris Street. Thus were the renting requirements in the upper portion of the building best taken care of, while at the same time it was



GROUND FLOOR PLAN OF THE CUNARD BUILDING. B. W. MORRIS, ARCHITECT.
The figures give the distances to the points of light obstruction.

possible by splaying the interior angles of the open court walls to introduce what have been termed four luminary squares, the lighting effect of which is most beneficial to the great hall of the Cunard Company.

This room consists of a central octagon 70 ft. in diameter and 65 ft. in height, with great rectangles on either side of the octagon which swell out into monumental niches recalling the Baths of Caracalla. As a result of the luminary squares supplementing the light of three great arched windows, the great hall will be amply lighted for the transaction of business, and give full opportunity for the enjoyment of the unusual decorations which are being provided by the owners.

By the arrangement of elevators and other essential features of service almost the entire perimeter of the building is uninterruptedly subject to exterior light and air, there being no closed courts or obstructing walls on the entire property. Below the setbacks which are required by the zoning law, the well-lighted working areas are about 63 per cent. of the lot area, which is 48,400 square feet.

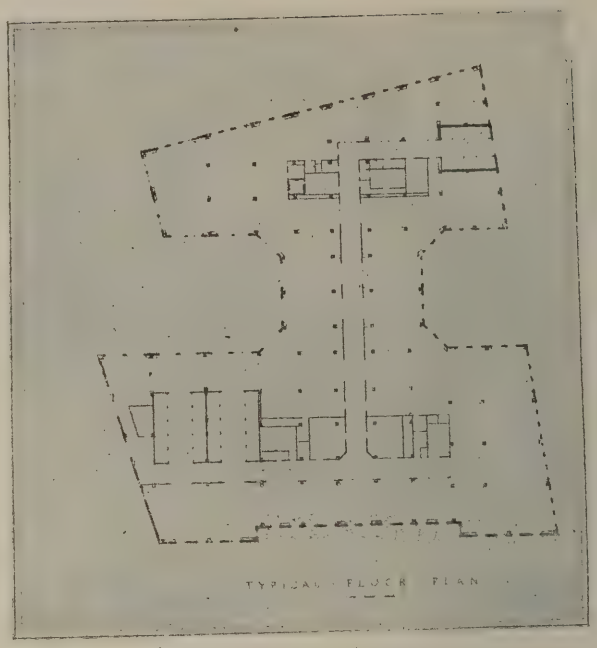
A treatment of the façade which would indicate the occupancy and prestige of the Cunard Steamship Company and at the same time provide ample and obvious means of access to the office building proper was obligatory. In accomplishing this the restrictions of the zoning law, which at first appeared to be obstructive in nature rather than helpful, were actually found to be the reverse.

The central mass of the building above the fourth floor has been recessed about 7 ft. back from the building line, thereby making it possible to carry its sheer height in an uninterrupted vertical plane several storeys higher than the end pavilions which flank it and rise on either side to the limit fixed by the zoning law.

The Broadway entrance to the office building thus becomes the dominant feature of one of these flanking pylons, and the entrance to an important bank the corresponding feature of the other pylon, while the three great central arches with an inscription on the band course over them and sculptural attributes over the colonnade at the fifth story indicate the entrance to the Cunard space and the great hall directly behind the entrance vestibule.

In the planning and erection of this building a double check exists on practically every item, and this is frequently trebled and quadrupled before the execution

A PRELIMINARY SCHEME FOR THE GROUND FLOOR.



THE CUNARD BUILDING, NEW YORK: TYPICAL UPPER FLOOR PLAN.

of the work, and it is well that it should be so, since i was not child's play in the field to dig 25 ft. across down-town alley far below the foundations of a sixteen storey building, and carry it on piles and at the same tim maintain the Broadway subway across the front of th building, with its steel trains thundering on a concret mattress held in place on a quicksand bed, far above th bottom of the excavation.

The subway traversing the plot was designed to sup port twenty-six-story buildings of various shapes an sizes, determined by the hazard of lot lines of ancier ownership, but the assemblage of these properties int one parcel naturally obliterated the carefully-selecte points of load deliveries. Then a big and extensiv decision (but cheap in the end) was arrived at. We coul not ascertain under what conditions and inspection th subway steel was manufactured and fabricated, and as was largely bedded in concrete, its exact location eve could not be verified. To build directly on it meant cordial invitation to the telephoning of subway grind ar roar, so the two sides of the subway have been trenche through rock, solid or otherwise, to a sure foundatic below track levels, on which rows of braced columns a set, carrying some of the heaviest girders yet seen in Ne York. These, in turn, carry concentrated column load spaced as the plan requires, all clear of the subway ste construction, and giving the fullest opportunity for sour insulation.

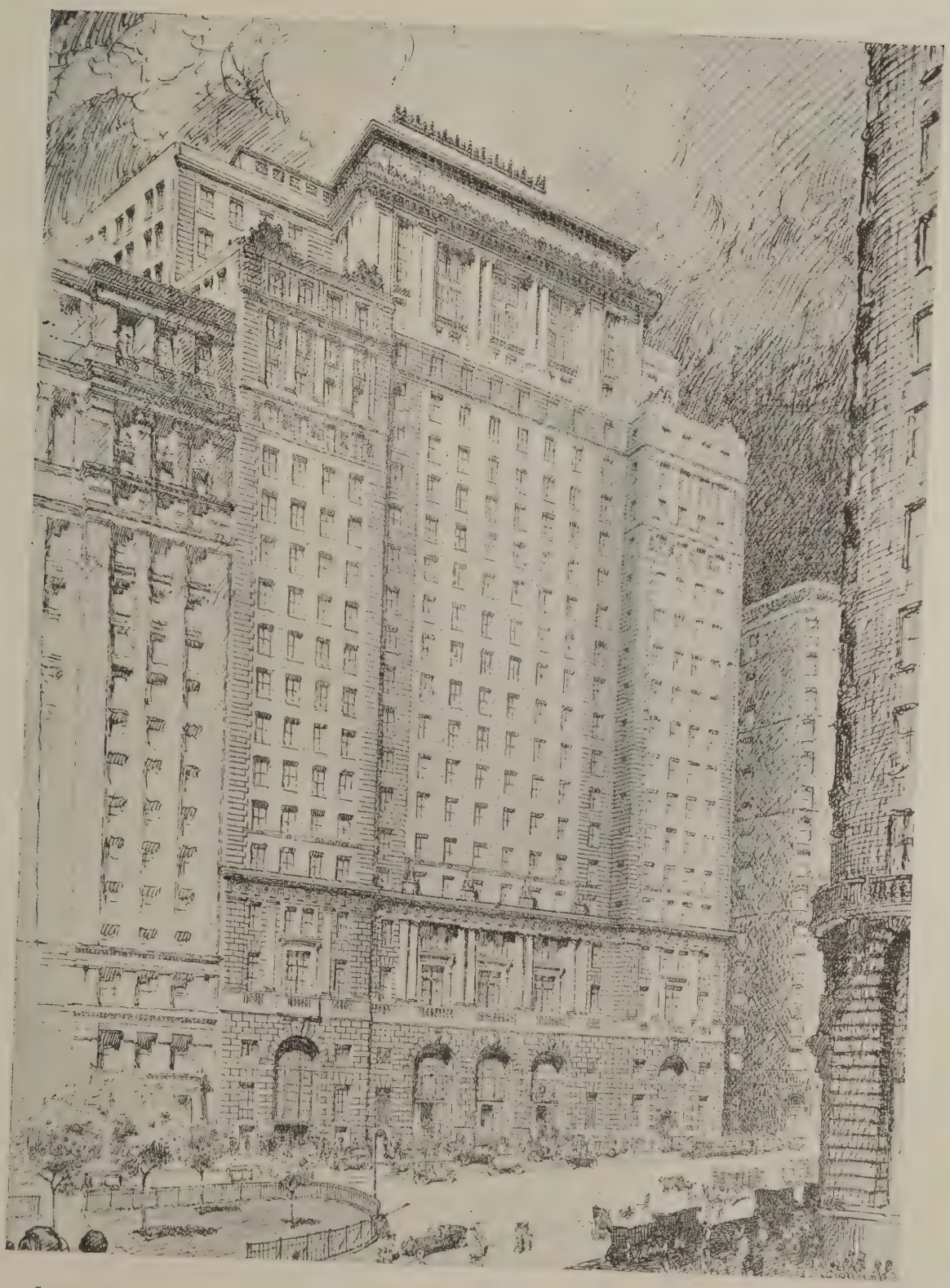
The building is twenty-three storeys in height, co tains twenty-eight passenger elevators for general se vice, five private passenger elevators, and three freig cars. The passenger elevators serve less than 19,0 square feet each, and owing to the size of the floors a separated into two main systems.

As the building progressed certain changes have be found necessary to comply with the demands of tenan Thus the final plan of the building, while the same in general scheme as shown in the illustration, has pr vision for a banking room on the right of the grou floor, where working space for the Cunard Company indicated. The colonnade has also been omitted and arched treatment adopted in order to afford the ma mum light in the Cunard offices on the second floor.

In July the steel was only four floors high, but t enting of the building on long-term lease was practica completed, all important contracts let, and largely d to the builder's foresight and ability, and in spite o rising market costs, were still within "the budget."

Modern American Architecture. 8.—The Cunard Building, New York

B. W. Morris, Architect



So excellent an example of the architectural treatment of the "skyscraper" would reconcile one to this type of building were it not for the knowledge of certain disadvantages that relate rather to expediency than to appearance. To put the matter briefly, so tall a building excludes too much sunshine from streets that need it for the sake of health and amenity.

Architects and Housing*

By PERCY J. WALDRAM, F.S.I.

ARCHITECTS and engineers are generally assumed to have very little in common. Their ideas, their outook, and even their opinions on building atters are supposed to be different, or ven diametrically opposite. Such, howver, is not the opinion of the writer, who n claim to regard architecture as a craft ry closely allied to his own, and the udy of old buildings, especially old vellings, as his favourite recreation. o far from failing to appreciate the strucral skill of architects, he would give uch to be able to lay claim to even a tle of the engineering skill of Brunelschi or Bramante, of the scientific ability Wren, of the structural skill of the degner of Westminster Hall, of the capay for illuminating research of a modern chitect, Mr. William Dunn, in such ghly technical subjects as the strength thin domes and the theory of reinforced ncrete.

The cleavage between engineers and chitects is much to be regretted. A ort two centuries ago the two terms were actically synonymous. Some day they y again become so, and the sooner the tter for both professions.

Let us be under no misapprehension as the responsibilities which architects ve demanded as their right, nor of the ficulties which in consequence face m. They have claimed of the nation, l claimed successfully, that the design the small homes of England should be ir task, and not that of the speculating ctical builder. Incidentally, and the nt is vital, they have claimed the oluments also.

Consider what this entails. The possibies of 1914 are not the possibilities of o by any means. Six years ago almost one could design a small dwellingse which could at least be built with difficulty to let at a rental fairly withhe means of probable occupants. Ununately, almost anyone generally did

o-day the construction of cottages, n buildings, and small suburban ses which can be let at a rental even reely within the means of those who have n promised them is a problem which he ablest minds in the country, not of itects only, are endeavouring to e; and with small success in spite State subsidies, relaxations, and inements of every kind. The difficulare patent and can be quickly summed as: Cost of materials; cost of labour; city of labour; and scarcity of ders.

Labour and Materials

labour and materials are expensive scarce remember we are paid to d waste in both. If the manufacrs of certain materials should form s (and rings would only be possible in les freely specified), then we are paid rt fees for expert knowledge, and rt knowledge includes the architecl history of materals and therefore the ry of possible substitutes, the history of cob walls, of pisé-de-terre, of Roman tiles, of early domes, and of roofs and floors constructed before Tredgold and his verbose contemporaries produced their innumerable pseudo-scientific rules and formulæ for the determination of scantlings. Formulæ which are almost invariably true for one span and load only, and extravagant for others.

Expert professional knowledge embraces everything germane to a man's profession —the subject which he professes to know. To the architect it may mean the requisite strength of the rafter which he details, the weight of the tiles which he specifies, or the railway charges on the bricks which he prefers.

If the architect claims the right to expert professional fees then the payer of those fees, whether it be a private client, a district council, or a nation, has an equal right to expert professional knowledge, and it is clearly an architect's first duty that his client does not suffer from want of knowledge. It is also clearly an architect's first interest that his client should not do so. The result in this matter can easily be foreseen. If architects produce only beautiful but wasteful dwellings, then speculating suburban builders and country craftsmen will very speedily be called upon to design practical but economical ones, which may or may not be beautiful.

The Need for Economy

Small housing of to-day is in many ways a task to which the average architect is unaccustomed . He has to cease thinking in hundreds of pounds and to start thinking in shillings and pence. He has to divest himself of the habit of devising what he wants and to learn to make the most of what can be afforded and obtained, and the most useful man is he whose knowledge both of old methods and of modern possibilities is extensive, detailed, and practical.

It is the small details which matter now. It may be difficult and irksome to remember that every unnecessary brick weighs 7 lb., and that each brick at the alleged trades union limit of 300 bricks a day takes two minutes to lay; that every unnecessary cubic foot of timber costs 5s. or 6s. *before* it starts on its long journey to the site, and that every unnecessary yard of concrete means probably two heavy sacks of cement, of which even the use of the sacks alone costs 6d. each. But these are the sort of details by which cost may unconsciously be piled up speedily to huge amounts. It is so easy for one who for years has been accustomed to think in large numbers to be irritated by petty cheeseparing economies which may each only save a few pounds per cottage, especially if they violate some orthodox practice which he has always followed. But every £15 of unnecessary cost on a dwelling means about £1 per annum of unnecessary rent, which must either be paid by the occupant or by a dole from the State.

Architects have also been for so long accustomed to work largely on paper that it is difficult to appreciate that an unnecessary cubic yard of brickwork or concrete weighs a ton and a half; that a ton is twenty loads of a hundredweight each, and that the handling, carriage, and cartage of every ton of unnecessary materials is a tangible addition to the transport facilities of the country, already overburdened with the reorganisation of all industries and the call for greater and ever greater production.

Traditional Building

A still greater handicap to the architect in grappling with the problems of expensive labour and materials is the architectural history of the past century. By Georgian times the numerous titled amateur architects of the later Renaissance period had succeeded in destroying or in banishing to rural districts the whole of the fine traditional building craft of this country, evolved for local materials by long experience in the hard school of practical trial and error, with scarce materials and scarcer labour—the very conditions which obtain to-day. In its place reigned fashionable Italian methods, coursed stonework, real or imitation, and therefore continuous massive foundations, flat ceilings, low-pitched roofs and many similar extravagances, importations from a different soil and a different climate. The output of standard rules and formulæ was enormous, and the practical value and scientific accuracy of the text-books of the period was inversely proportionate to their Hanoverian pomposity. Unfortunately they were accepted at their face value, and palimpsests of them still exist in standard by-laws.

Upon this undesirable foundation honest attempts have been made for a hundred years to build up a standard system of good building and to improve it from time to time, to live up to the satisfying but rather impracticable clause that everything should be the best of its respective kind.

Labour was cheap, materials grew cheaper and cheaper. Every one took a pride in improving building methods and, once an improvement, however extravagant or wasteful, had been adopted, no architect dared to economise on it for fear of the cruel taunt of jerry-building. In all structural details it was wiser to follow than to lead, and the result is that in 1914 we were freely introducing into the designs and specifications of small houses materials and methods which found no place in ducal mansions of fifty years before, but which added little or nothing to the beauty or the durability of the structure, and still less to the amenities or comfort of its occupants.

The difficulty to-day is that we have grown so accustomed to many of these extravagances that we are rather afraid to question their orthodoxy. We have left economical building so largely to speculating builders that our knowledge of structural economies has suffered, and our function of practical, structural criticism has been atrophied by neglect or weakened by timidity.

We have taken over, possibly somewhat too confidently, an obligation to economise. Is it an exaggeration to say that we are not quite sure where to begin? That is at least the impression which is conveyed by many of the specifications and

xtracts from a paper read before the Northern tectural Association.

designs for rural dwellings and farm buildings from different parts of the country.

The natural antidote to excessive cost being economy, it will be convenient to consider in detail a specification which the writer understands to be the one upon which the Ministry of Health is prepared, mutatis mutandis, to authorise loans. This specification is a very notable economic advance upon the old Local Government Board model by-laws, and the architects of housing schemes have reason to be grateful for it. But gratitude being proverbially a lively anticipation of future favours, there is nothing sacrilegious in considering further advancement of the good work, at any rate for rural housing.

Economy in Construction

Much may be learned from intelligent study of existing buildings, especially of old buildings, and from careful and discriminating enquiry into the traditional building methods which still survive in rural districts. It is necessary, however, to bear in mind that proved durability is not necessarily a proof of economy. Relative costs have changed materially, and a traditional economy may be a modern extravagance. A massive floor beam may have been used because it was then cheaper to avoid cutting it by hand; heavy roof timbers may have been introduced to carry stone slates, and thick stone walls may originally have been built dry.

Economies should not concern only the market prices of the moment—transport and supply of materials are equally important. The apparent saving between, say, brickwork and local stone or concrete made with local ballast may nominally be negligible, but the real saving will be large.

It is always desirable to consider economies in the light of a bill of quantities, actual or mental, and to pursue each economy to its total effect on final cost, with due regard to such factors as carting, carriage, labour supply, and administration. The largest of these is foundations, the cost of which is affected by running length of walling. It is important to note that the weight imposed by two-storey cottages seldom reaches one ton per foot run of external 9-in. or 11-in. hollow brick walling; quite a light load per foot super on any ordinary firm soil. Also the bearing power of soils increases rapidly with depth, and generally a comparatively narrow trench taken down to a good firm bottom and filled in with concrete up to the damp-course will be stronger and cheaper than a wider but shallower trench brought up mainly on brickwork. In clay, especially on sloping sites, depth is more important that spread.

Considerable economy in cost of concrete can often be effected by a careful grading of the constituents of the aggregate. A properly graded 8:1 or 10:1 mixture is not only much cheaper than a 6:1 mixture improperly graded, it may also be stronger, and is almost invariably more impervious; so that 3 in. of the former over the site may be more efficient that 4 in. of the latter.

Brick footings were originally intended for weak lime concrete. They are unnecessary with good concrete. Unnecessary depth under ground floors is expensive and difficult to ventilate, and therefore a possible cause of rot. All that is necessary is that the bottom of the site concrete should be below the vegetable soil. Brickwork is often wasted in sleeper walls carrying substantial sleepers. The cube of timber in the latter can more advantageously be employed to span gaps in the sleeper walls.

In the determination of scantlings of roof and floor timbers, some of the by-laws are fallacious and require different standards of strength and stiffness for different spans. Stiffness is a more exacting factor than ultimate strength. If 7 by 2 joists 14 in. apart are correct for 11-ft. span, then all 2-in. joists 14 in. apart will be equally stiff and strong over any span if the depth be 7-11 of the span. It should be constantly borne in mind that the quantity of timber required per square of flooring is proportional to the span, and small timber is also cheaper per standard than large scantlings.

Considerable economy can be effected by wider spacing, which is fixed with regard to lath and plaster. The omission of ceilings thus serves a double economy, but entails double or at least tongued flooring.

Roof timbers are almost invariably over specified. They have to carry roof covering and snow and very little else, wind pressure being normally upwards, not downwards. Plain tiles are very heavy, but large Roman tiling is about 40 per cent. lighter.

Much expense is often wasted on joinery. Such items as 4½ by 3 casement frames and 6 by 2 rebated door jambs are crimes with timber at its present price. Small wood casement squares and heavy sash bars are both wasteful and gloomy. The substitution of rounded arrises for elaborate quirked mouldings has much to recommend it, and the advantages of standardised joinery sizes are obvious.

Unnecessary expense is often incurred in plastering. Two coat "country finish" without screeds is quite sufficient.

Plumbing work repays the closest scrutiny. Even an alteration to the plan may be justified to reduce the cost of piping.

Drainage work should be good, but items like elaborate earth closets and concreted rain-water drains in country cottages are absurdities.

The above items are merely typical suggestions, but no item is too trivial for scrutiny.

Many practical economies in the planning of rural cottages are suggested in the "Equipment of Small Holdings" issued by the Ministry of Agriculture and Fisheries, but the officials of the Ministry by no means regard it as the last word in economical construction. The numerous types illustrated of each class give some idea of the great variety of design and plan which is possible in housing possessing practically the same accommodation, and the same degree of comfort, built to similar specifications, with the same fixed height of room. A little investigation will show that under these conditions, which can readily be, and usually are, standardised for housing schemes, there are but few variables by which the designer can increase or decrease cost.

Scarcity of Builders

Builders who are prepared to quote reasonable figures for housing schemes are extremely scarce, because they are usually invited to tender at fixed prices with the material market fluctuating weekly and daily, and to complete by a fixed d under penalties, with deliveries even m uncertain than prices, and the lab market both short and unsettled.

The monetary responsibility of pu bodies carrying out housing scheme satisfied if it pays a fair price at the when payment is made, and it is for ar tects to frame the conditions of cont accordingly. What is required of builder is the use of his plant and the perience, brains, and business capacity his staff and foremen.

All payments, whether for wages or m rial, can be paid direct from a local ba ing account. The services required of builder can easily be specified and dered for. He would have a direct in tive to run the job promptly, and there cheaply, because his plant and staff w thereby be released more quickly for f employment.

Upon an ordinary bill of quant builders can schedule the labour and m rials involved, and there is no reason they should not submit such schedule competition, priced and totalled to an mate. During the progress of the the estimate might be variable by amount of any variations which could be foreseen, such as increase of la rates or arbitrary rises in the price of m rials before firm orders quotations c be accepted. Upon such an estima bonus could be earned or a penalty curred. The building owner would course, pay all out-goings direct, but contractor, without incurring any g financial risk, would be monet concerned in securing all legiti economies.

There would appear to be some ho solving two problems simultaneously i bonus were divisible, say, one-third t builder and two-thirds between all men who had been engaged for tw eight days or over, in proportion to wages, with special rates for foremen leading hands. If any man objecte conscientious grounds his share automatically revert to the State. problem is a most interesting one, a economic importance calls for the i diate and careful consideration of tects. Such contracts would, of co demand accurate costing, but nothing complicated than is customary with tractors.

Coming Events

SEPTEMBER 15 TO OCTOBER 9.

Glasgow Housing and Health E tion.—Kelvin Hall of Industries, K grove.

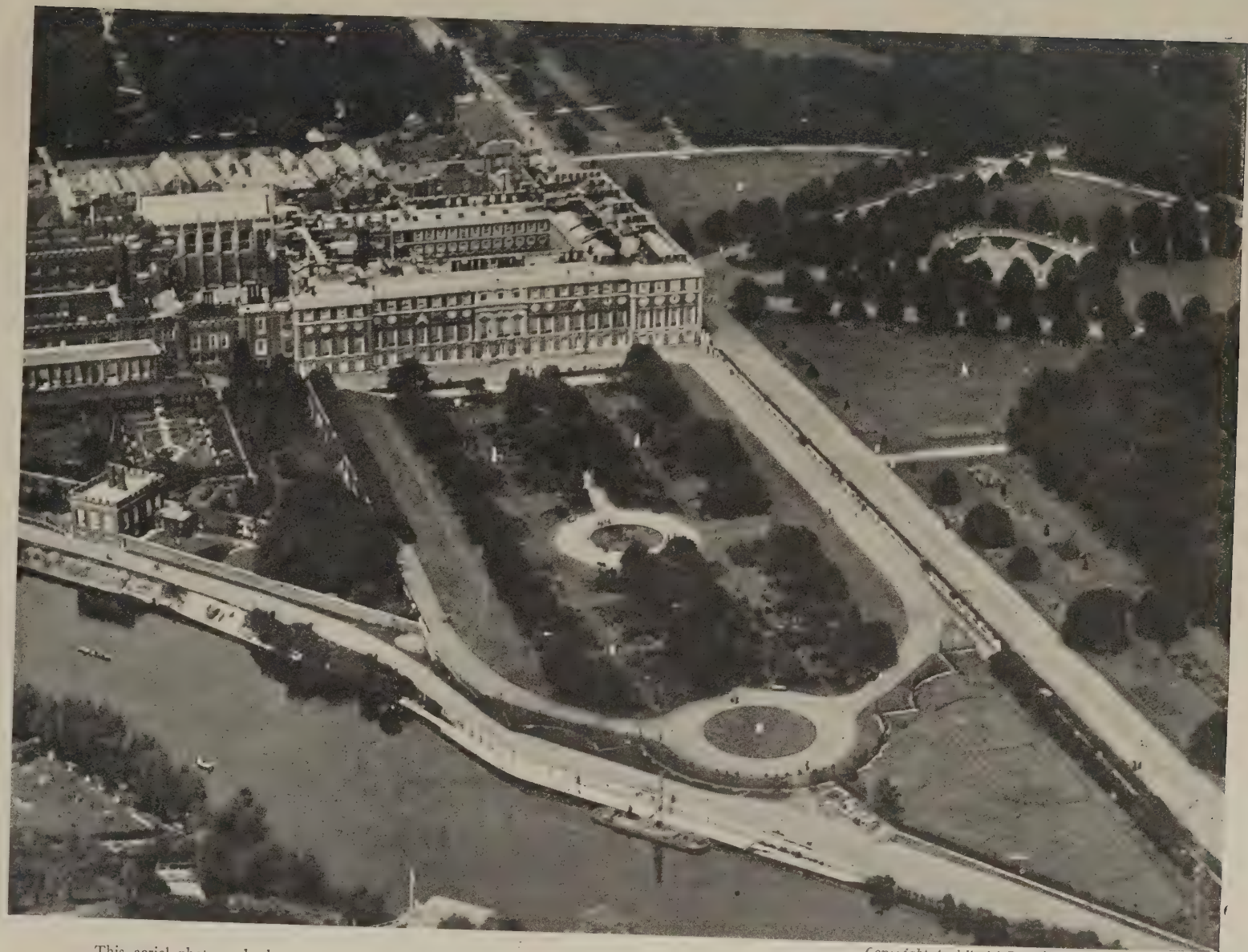
FRIDAY, SEPTEMBER 17.

R.I.B.A. A general meeting of I tiates will be held at the Institu Conduit Street, W., on Septembe 1920, at 6.30 p.m. All Licentiate earnestly requested to attend.

TUESDAY, OCTOBER 19.

Society of Architects Lodge of masons. There will be an emer meeting on Tuesday, October 19, regular meeting (installation) on We day, November 10, at the Holborn taurant. The lodge is always plea see visiting "members" from lodges, and as some potential visitor felt a diffidence in attending when evening dress, it should be made that they are equally welcome in m dress.

Air Views of Buildings. 4.—Hampton Court: The Palace



Copyright Architects' Journal (Photo: Aerofilms Ltd.)

This aerial photograph shows more clearly than can be seen from the ground the rather distressing clash between the Gothic of Wolsey's buildings and the Renaissance of Wren's. It is valuable also as revealing very distinctly certain faults in the lay-out of the grounds and the more conspicuous these defects are made the more likely are they to be rectified.

Dickens' Haunts to be Pulled Down

A semi-circular sweep of tall, dingy grey houses, the windows brightened, in many cases, with flower boxes, situated in Hampstead Road, London, and with a fine enclosed garden, boasting a magnificent avenue, comprising, in all, 4¼ acres of land, is shortly to be pulled down, and thus there will be severed another series of links with Dickens.

In one of the houses included in the area for sale, No. 263, Hampstead Road, Cruikshank lived. Here he drew the illustrations for "Oliver Twist." In an earlier period the same house was occupied by Clarkson Stanfield, the scenic artist, who was responsible for the scene painting connected with Dickens's few dramatic productions. Dickens frequently visited the house in the hey-dey of his popularity, and in doing so touched the fringe of the twilight quarter where his boyhood had been spent, for the whole neighbourhood teems with Dickens associations, and characteristic stories of his circle.

In the same block, at the corner of Granby Street, stands what remains of Wellington House Academy, which Dickens attended as a day-boy for about two years, subsequent to his period in the blacking factory. The Academy is to-day just as the novelist described it in "Household Words" in 1851, under the title "Our School," "presenting itself in a green stage of stucco profilewise to the road, like a forlorn flat-iron without a handle, standing on end."

Dickens students are practically unanimous that the Academy furnished Dickens with much of the material for Salem House in "David Copperfield," though he located it at Blackheath. Indeed, there was at the Academy, at the time Dickens was there, as testified to by his schoolfellows, a master who was a lover of the flute, and was, in many other particulars, the prototype of Mr. Mell. Prior to the visit yielding the article on the Academy which appeared in "Household Words," the actual schoolroom and the playground had been swallowed up by the railway. By the way, many, in trying to locate the school, have been led away by Dickens biographers to seek it in Mornington Place. Now, the portion of Hampstead Road in which both the school and Cruikshanks' house are situated was known at one time as Mornington Place. There has been a bit of juggling, and Mornington Place to-day is a short direct cut from Mornington Crescent to Mornington Road.

If you cross the main road from the Crescent you are in the drab regions of Somers Town, where Dickens first saw London intimately. Bayham Street, his first London home, is only about five minutes' walk from the Academy, though the actual house has gone, and on its site stands the out-patients' department of a hospital. Even nearer to the school is Johnson Street, where the house in which Dickens lived as a boy is marked by a tablet stating this fact. It is one of a uniform row of squat, depressing houses in a depressing locality. Just round the corner is the Polygon, where Skimpole lived. You may not discover there, to-day, "poor Spanish refugees walking about in cloaks, smoking little paper cigars," but you will probably find less picturesque aliens still hovering about the quarter.

H. JOHNSON.

Correspondence

School Design

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Your article on "Modern Practice in School Design" is comprehensive and instructive. On page 233 it remarks: "Until recently local by-laws throughout the country have prevented any great changes. Now school buildings are exempt from by-laws."

My experience in a district near London has been that the District Council would not relax any of its by-laws with regard to additional class rooms, just completed. In fact, the plans were disapproved because the roof purlins were 6 in. by 3 in. instead of 7 in. by 2½ in., and slab partitions for outside corridors were only allowed to be executed as "a temporary building" under special conditions and restrictions.

Such limitations hamper building extension, are vexatious, and create the impression that some district councils outside the County of London do not move with the times, and that their officers are in dread of allowing any variation in construction which is at variance with the model by-laws.

The exception, however, is seen in the temporary school erected at Hogarth Place by the Chiswick Urban District Council, from the plans of Mr. Edward Willis, A.M.I.C.E., F.S.I. The form of construction adopted is worth careful consideration.

F. R. GOULD WILLS.

MEMORIAL IN WHITE MARBLE. (H. H. MARTYN AND CO., LTD., CHELTENHAM.)

Sanitation of Theatres

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Surely it is a little unjust to hold theatre architects responsible, as "Second Player" does in his (?) letter of last week, for the disgracefully inadequate dressing-room accommodation of certain theatres. Unfortunately for those who are obliged to use them, the remedy for the present state of things does not rest with the architects.

Even if they *were* to become "a little better acquainted with the conditions of stage life"—and it is begging the question to charge them with utter ignorance on this head—they would still find it difficult to impress their views on the building owner, who, as a rule, has very definite ideas on what he no doubt considers the least important part of his undertaking.

It is unlikely that the proprietor would sanction the cost of providing seemly and hygienic dressing-rooms for the players so long as no sort of public pressure could be brought to bear upon him to do so.

If the Actors' Association will but continue to ventilate the scandal, and enlist the sympathetic co-operation of the authorities, I venture to prophesy that the play-going public will very soon adopt its own measures for securing these much-needed and long overdue amenities for our good friends behind the footlights.

F.R.I.B.A.

Enquiries Answered

Preventing Dry Rot.

T. S., London, writes: "I have recently purchased a house with 4 in. wide oak floors in three rooms, and deal boards in the kitchens. I should be obliged if you will advise me whether it is necessary to have an air passage under the floors. The architect of the house says it is not, as the space between the floors and the concrete, which is 2 ft. thick, is so small that it is not necessary, as dry rot, etc., would not attack the boards. Wooden battens 1 in. thick are placed directly on the concrete, on the top of which the floor boards are nailed, therefore there is only 1 in. between the floor and the concrete."

From a practical point of view there is no advantage in providing air inlets under these floors, the 1-in. clearance between the concrete and the underside of boarding being too small to ensure an efficient circulation of air. The battens and underside of flooring should have been treated with one of the efficient wood-preservatives. It is impossible to guarantee that a floor of this description will not contract dry rot, but the danger will be minimised if you refrain from covering the surface with linoleum, as this hermetically seals the floor and prevents the air having access to the pores of the timber from any direction.

Finger Plates.

E. H. (Doncaster) writes: "Can you give me a few words of history concerning the use of finger plates on doors? When did they first come into use, and why are they now deemed unfashionable?"

—Finger plates may fairly be said to belong to the nineteenth century; there was no need for such excrescences in the days of mahogany; neither were they required to protect grained and stippled woodwork. Maybe they are now unfashionable just as antimacassars are unfashionable, though both are useful and may still be seen. Indeed, in any room where the doors are painted white, and especially where there are children, fashion or no fashion, finger-plates will be necessary.

Enquiry for "Humidor."

Q. RIOS writes: "I shall be much obliged if you will kindly inform me the name of the patentees or vendors of 'Humidor.'"

—Perhaps some of our readers will supply the required information.

Sir Alma-Tadema's House.

W. E., Cardiff, writes: "With reference to your article and illustrations of Sir Alma-Tadema's house, I shall be glad to know whether there is any book or journal published giving more details of the house."

—So far as we are aware there is no book on this house. The article in question was written by a member of our staff after paying a visit to the house.

The Coronation Stone

Writing to the Press, Viscount Bry O.M., says: "The question has often be raised as to the place whence came th famous relic of antiquity, the Coronati Stone, which is enclosed in the Coron tion Chair, and was brought from Scon the old Pictish capital, to Westminster King Edward I., in A.D. 1296. Desiri to throw some light, if possible, upon t question, having obtained permissi many years ago from the then Dean Westminster to inspect the stone, examined it carefully along with eminent mineralogist who was go enough to accompany me. We compar it—it is a block of greyish, slightly redd sandstone—with pieces of sandstone ro which I had procured from Scone, a with other pieces from Dunstaffnage Loch Etive, in Argyllshire, whence (cording to a Scottish legend) it w brought to Scone. It proved to be a rock different from any of these spe mens, and so was presumably eit brought by men's hands to Scone fr some other district or carried there b glacier or an iceberg."

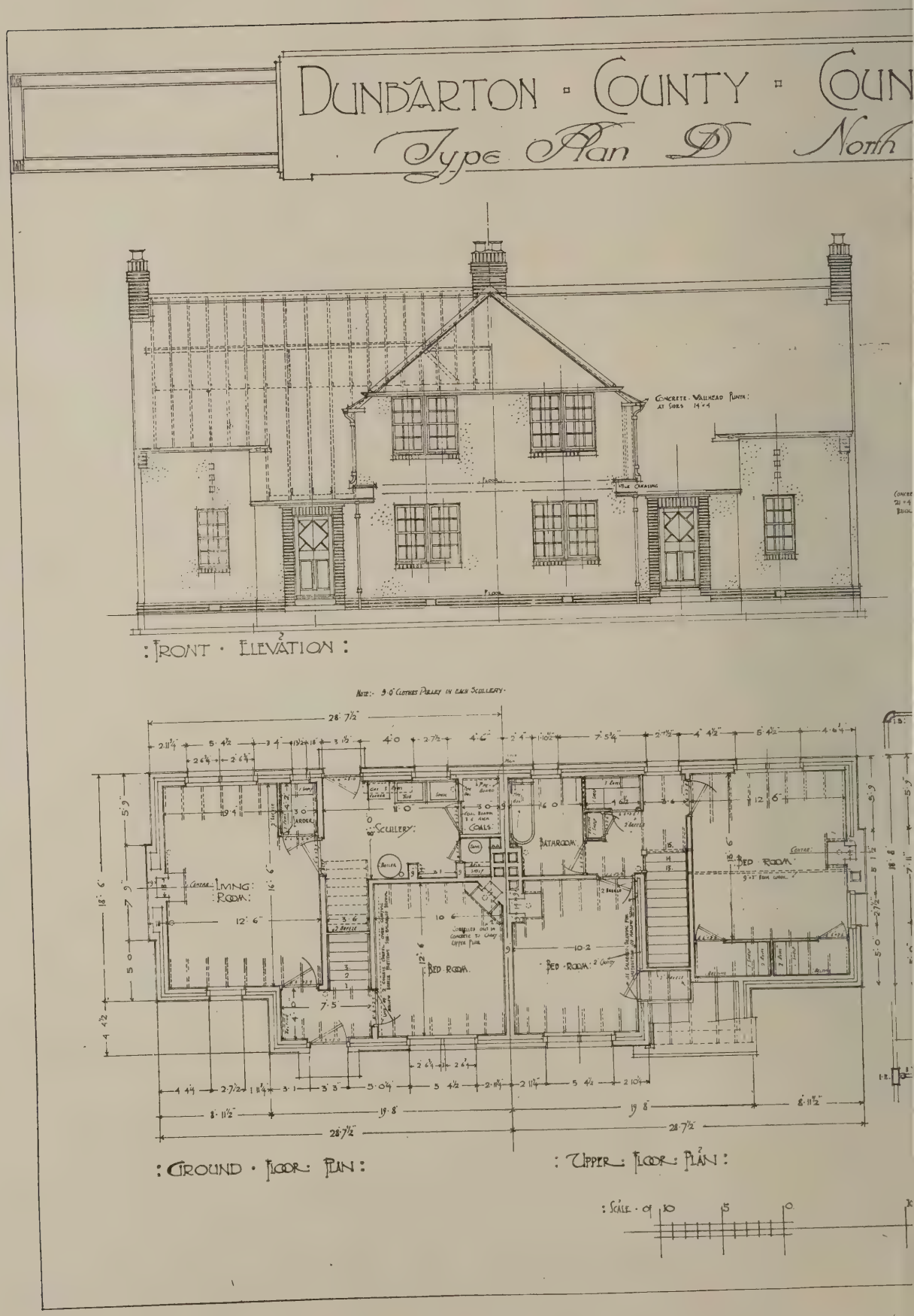
MEMORIAL IN WHITE MARBLE WITH BRONZE BUST.

(H. H. MARTYN AND CO., LTD., CHELTENHAM).

Architects' Working Drawings.

Dunbar

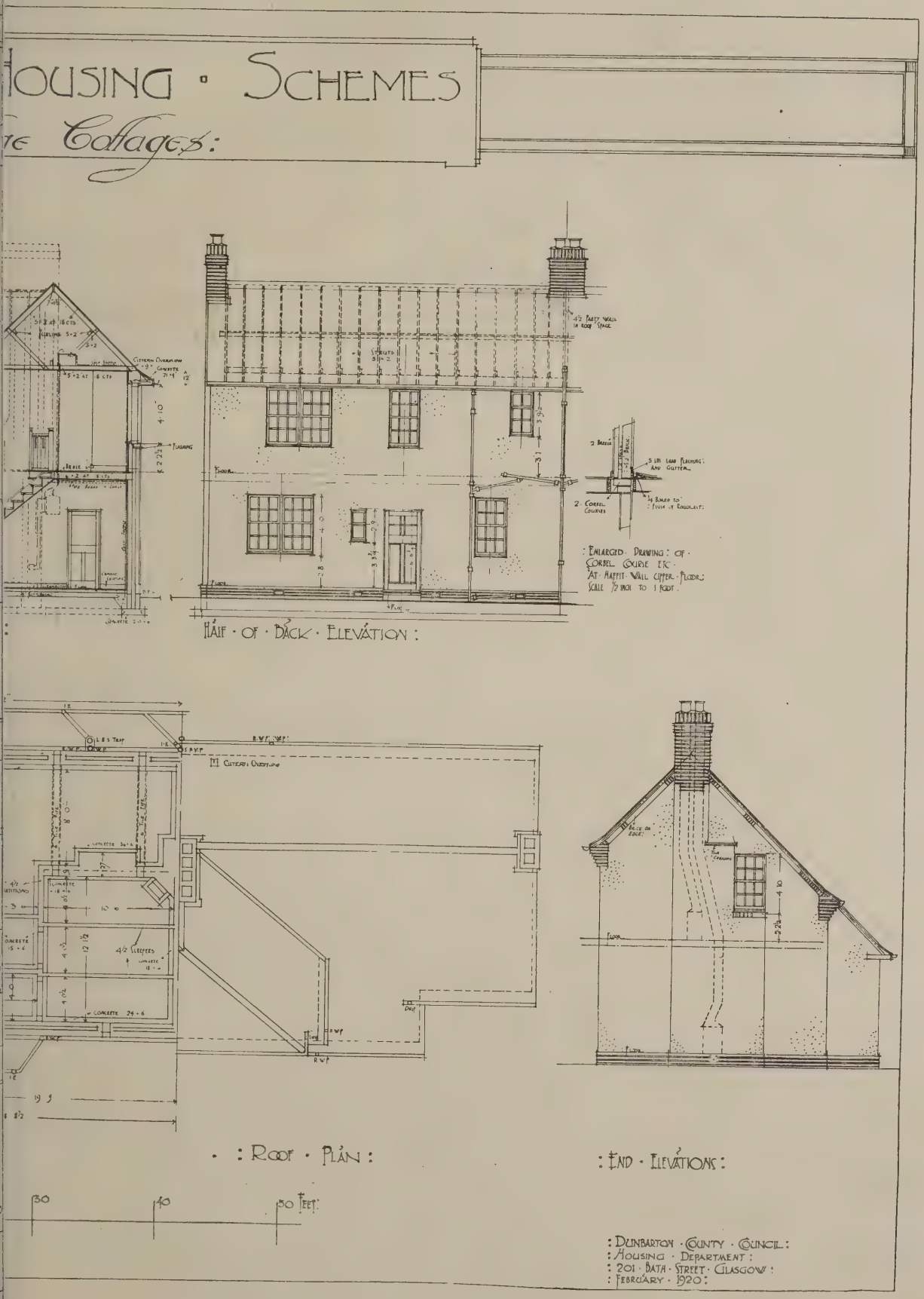
Joseph Weekes



This design for a pair of semi-detached cottages shows on
of the county of over 1,000 new houses, cottages and fla
700 houses are contemplated. Some of the three-ro

ɔical Cottages to be erected by Council

B.A., Architect



connection with the scheme for the provision, in various parts at Alexandria, Duntocher, Renton, and Old Kilpatrick, about built in blocks of four, were illustrated in our issues for

Housing Progress

New housing schemes submitted to the Ministry of Health during the week ended August 28 numbered seventy-five, bringing the total number of schemes submitted to 11,002, comprising about 74,000 acres. The schemes approved now number 7,810, and comprise about 53,750 acres. Seventy-three lay-out schemes were submitted and 116 approved during the week, bringing the total number of lay-outs submitted to 5,815, and the number approved to 5,196. House plans, representing 2,066 houses, were submitted, and plans for 2,118 houses approved. The total number of houses represented in all the plans now submitted is 251,863, and in the plans approved 236,232.

During the week tenders were submitted for 2,276 houses. Tenders for 1,699 were approved, bringing the total number of houses in tenders submitted to 159,335, and in tenders approved to 142,485. Contracts have been signed for 93,051 houses.

The District Valuers of the Inland Revenue Valuation Office had by the end of July valued 14,236 housing sites, covering an area of 84,465 acres. They have also undertaken and completed negotiations on behalf of the local authorities for the purchase of sites in 4,250 cases, relating to an area of 19,431 acres. The average price per acre finally agreed was £190, a reduction of £70 from the price originally asked by the sellers or provisionally agreed to by the local authorities. By the middle of August proposals had been made for the erection by local authorities and public utility societies of 29,359 houses, according to the special methods of construction which have been approved by the Ministry. Contracts had been placed for 14,205 of these houses, and were being arranged for a further 4,260 houses. Building on 2,208 houses had been begun. In addition, at the same date, the builders of 1917 subsidy houses were also employing the special approved methods.

New housing schemes submitted to the Ministry during the week ended September 4 numbered fifty-four, bringing the total number of schemes submitted to 11,029, comprising about 74,000 acres. The schemes approved now number 7,876 and comprise about 54,000 acres. Ninety-four lay-out schemes were submitted and ninety-nine approved during the week, bringing the total number of lay-outs submitted to 5,943 and the number approved to 5,310. House plans representing 1,848 houses were submitted and plans for 2,118 houses approved. The total number of houses represented in all the plans now submitted is 254,155 and in the plans approved 238,550. During the week tenders were submitted for 2,486 houses. Tenders for 806 were approved, bringing the total number of houses in tenders submitted to 159,784 and in tenders approved to 142,610. Contracts have been signed for 94,294 houses.

Building by direct labour has been sanctioned by the Ministry in the districts of sixty-five local authorities, who had been unable to obtain satisfactory tenders from contractors. The number of houses proposed to be built in this way is 5,695. Sanction has been given also to five public utility societies to build 1,069 houses by direct labour. The limiting price which is set on the cost of proceeding by direct labour is in many cases considerably lower than the lowest tender received.

The Official Arbitrator has just issued his awards as to claims made in respect of land of about seventeen acres wanted for housing purposes at Llanelly. The owner asked £6,800 for his freehold interest, and the Town Council offered £5,600. The offer was refused, and the Arbitrator has awarded £5,280, and ordered the claimant to pay the costs of the Council. The owner had entered into an agreement for the lease of the land to another person who claimed £1,250 for his interest in the land. The Arbitrator decided that the agreement was of no value, and ordered his claimant to pay £5 towards the expenses of the local authority.

RADNORSHIRE ARMS HOTEL, PRESTEIGN.
(From a drawing by Jasper Salwey).

Inns: Old and New

While so much attention is being directed towards the modern aspect of inn design, one is apt to forget the admirable examples of old taverns and hotels which are to be found in all parts of the country. Perhaps this is due to the fact that, although much has been written upon the charms of old country inns, no comprehensive volume exists on the subject, and a study of their design can in many cases only be made by personal visits. Some

architects, of course, have made the study of inns their special hobby, but only too rarely, perhaps, do they have an opportunity to execute designs. The particularly interesting specimen illustrated, the Radnorshire Arms Hotel, at Presteign, on the borderland of Wales, is reproduced from "The Trust Review," a publication full of valuable information for the traveller and tourist. The hotel, which has an adventurous history, dates from 1616, and retains its ancient priests' chamber and secret stairway leading to a room where Charles I. lay hid. The priest room in the house is the bedroom panelled in oak, where Sir Christopher Hatton slept.

Another interesting old inn which has lately been taken over by the Trust Houses, Ltd., is the "Lion," in Wyle Cop, Shrewsbury, where in 1838 Dickens and Phiz spent a night. It lies on the direct London to Holyhead road, and it was owing to the enterprise of one of its landlords, Robert Lawrance, that this line of travel was diverted from Chester to Shrewsbury. The great ballroom which figures in one of De Quincey's reminiscences is still a feature of the hotel.

The Ideal Public House.

Mr. J. J. Calder, chairman of Messrs. Allsopps, presided at a luncheon at Oddenino's Imperial Restaurant, Regent Street, last week, and announced the winners in the recent competition for the Ideal Public House. They have been previously published in the Press, and the winning design was illustrated in the ARCHITECTS' JOURNAL. Mr. Calder said that in view of the present housing shortage difficulties would be experienced in obtaining the sanction of the licensing magistrates. Asked to indicate where it was proposed to proceed with the erection of this ideal public house, Mr. Calder said that application for a licence would be made at the next brewster sessions in the Midlands, in an industrial district, where a large number of motor-cars were manufactured.

National des Universities et Ecoles Francaise

The London branch of the "Office National des Universities et Ecoles Francaise," which was founded in the summer of 1919, in co-operation with the British and American university organisations of the same type, has, like the head office already existing in Paris, the official recognition and active support of the French Ministry of Public Instruction. It aims at securing closer intercourse between French, British, and American students and teachers, while diffusing a wider knowledge of French intellectual culture of every kind. For this purpose, a library has been set up at 50, Russell Square, W.C.1, for information concerning the universities and the principal State schools of France, together with a lecture-room where eminent French scholars visiting London may give lectures and where French students and teachers may meet their Anglo-Saxon colleagues. There is also a secretariat, the duties of which are to supply every information that may be required regarding the various universities, technical schools, and commercial and artistic establishments of France, in order that English-speaking students and the teachers in charge of their studies may be directed to those towns and establishments which will prove most suitable for the furtherance of their intellectual pursuits. On the other hand, this office is to remain in close contact with British universities in order to direct to the best advantage those students who come over to England for their studies. The Direction des Beaux-Arts, in Paris, would welcome and assist any intercourse in the teaching of architecture between England and France, and the Office National would be glad to act as the "Liasion Office."

Society of Architects Fellowship Class

Members of the Society of Architects elected previously to May 1, 1920, who are over thirty years of age and have been engaged as principals in the practice of architecture for at least ten consecutive years, and are still so practising, or who are Fellows of the R.I.B.A., are eligible to make an application for transfer to the Fellowship class. Members elected since May 1, 1920, have a similar privilege, but cannot exercise it for twelve months from the date of their election. Candidates may make application on the prescribed form, to be obtained from the secretary, and must submit such further evidence of qualifications by way of drawings and photographs, and other testimonies of professional standing and ability as the Council may in each case require. The new Certificates for Fellowship, Membership, and Licentiateship of the Society have been approved by the Council, and will be issued to all members (in any class) elected on and after July 15, 1920. Other members wishing to exchange their membership certificates for new ones should return the originals to the secretary, with a remittance of five shillings.

Competitions Open

Wakefield.

Cenotaph to the memory of the Fall
Apply Town Clerk.

Lille.

Extending and beautifying the c
Entrance fee, 300 francs. Available
premiums, 128,000 francs. Apply
Mayor. Competition closes October.

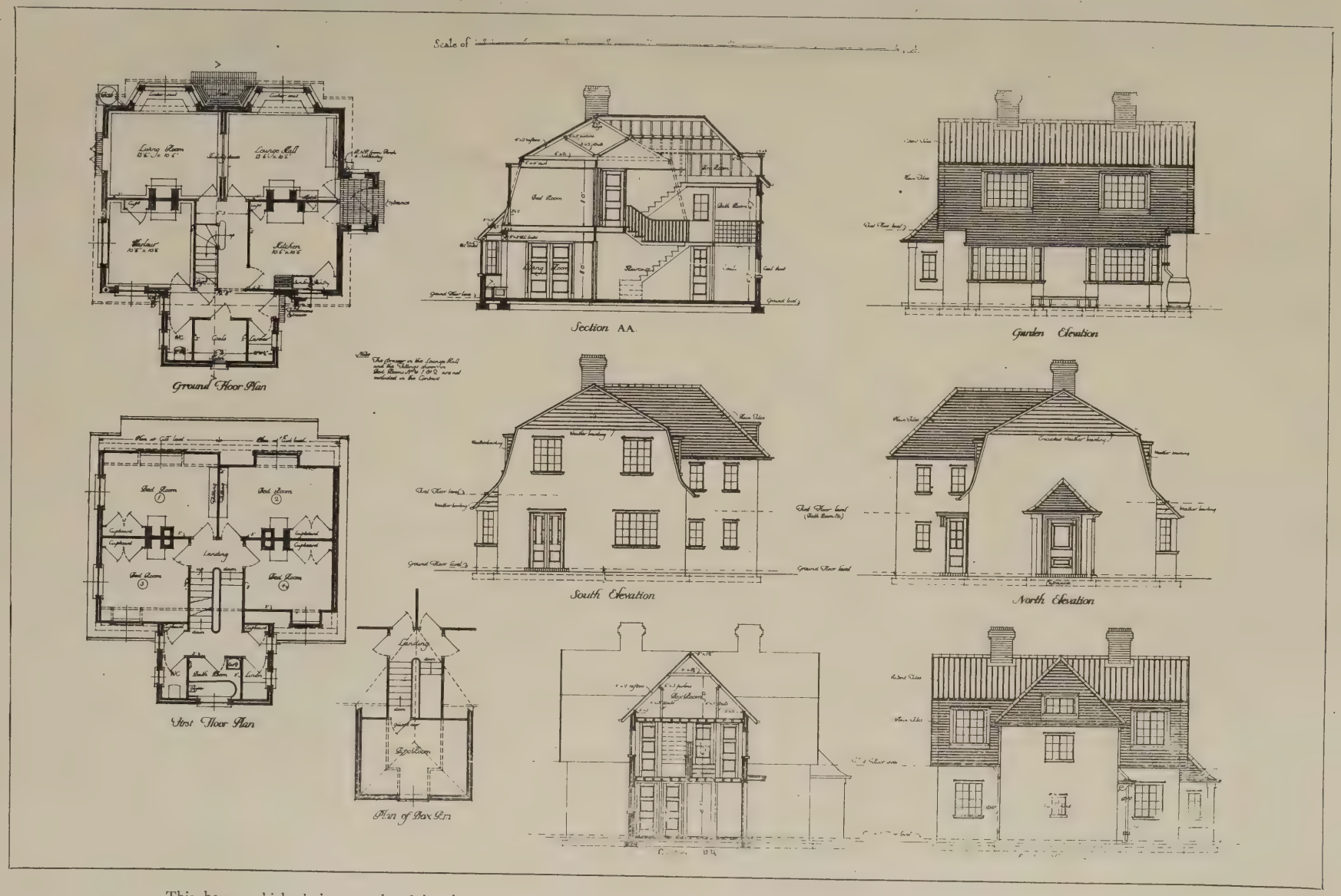
Architectural Scholarship.

The Architectural Scholarship, 1920,
the value of £10, is offered for measu
drawings, and the competition is confi
to Licentiates and Students of the Soc
who have paid their fees for the curr
year. The assessors are Messrs.
Charles T. Ruthen, O.B.E., Percy
Tubbs, and Professor Adams. Candid
are required to submit at least three
not more than four sheets of measu
drawings and details, of some buildin
historic interest. The drawings are t
prepared between November 1, 1919,
September 30, 1920, and must be
dorsed, "The Society of Archit
Architectural Scholarship, 1920,"
delivered not later than 6 p.m., on O
ber 1, 1920, at the Society's offices,
Bedford Square, W.C.1. The scholar
will be disbursed by the Council on be
of the holder, subject to their approv
the manner in which the candidate
poses to utilise the scholarship, or a
natively to the candidate agreeing to
scheme as the Council may decide u
Should the scheme not call for the
ment of so much as ten pounds,
holder may receive the value of
balance in books or instruments.
successful candidate may be required
fore the award is confirmed, to produ
the Council evidence as to age.

RADNORSHIRE ARMS HOTEL, PRESTEIGN. A CHARMING DETAIL.

Modern Domestic Architecture. 16.—House at Abingdon

Alfred W. S. Cross, M.A., F.R.I.B.A., and Kenneth M. B. Cross, B.A., Architects



This house, which derives much of its character from the agreeable variation in the shapes and proportions of its gables and pediments, is fitted throughout with standard metal casements and frames to the windows. The walls are rendered on the outside and plastered within, and the roof is covered with old sand-faced tiles, except where patent interlocking tiles of local manufacture cover the flatter portion above the curb. Messrs. Thatcher and Sons, of Abingdon, are the builders, and the cost, including drainage, but not fencing or garden walls, is £1,800.

Glasgow Housing Exhibition

THE Glasgow Housing and Health Exhibition, which opens to-day at the Kelvin Hall, is the second exhibition of this kind to be promoted by the Glasgow Corporation. This year the exhibition is as large again as that held last year, and s promised with even greater success, the all having been specially enlarged to meet he great demand for more space. Many mportant firms are represented, and the xhibits cover a wide and varied range. Among the specially interesting features re a number of full-size model houses, furiished throughout with the latest apliances and labour-saving devices. Other pecial features include exhibits of all kinds f building materials and machinery, furiture of all descriptions, and some inenious models executed by artizans. 'isitors to the exhibition are invited to isit our own stand, at which all our arious architectural publications will be n view. In our last issue we published a reliminary survey of the scope of the chibition, and this week give a number f extended notices of exhibits of particur interest to our readers.

Walls, Floors, and Roofs

Messrs. Kirkwood, Bannatyne and o., specialists in asbestos and rubber oducts applied to building purposes, ave at Stand No. 66 (Avenue B) an inresting and comprehensive display of bestos cement in the many forms that e now appealing so keenly to builders on count of their lightness, low price, and mple handling. The exhibits include ain and corrugated sheets, roofing tiles, tters, water piping, and connections in rious colours, india rubber stair treads, ing, and matting. In terra cotta products there are tiles, ridging, and flooring quarries, while another exhibit shows the range of Ulite rotary and turbine pumps, for which the firm hold the Scottish agency. As practical engineers the firm will be pleased to give expert advice to the market for these goods. Address: 64, Wellington Street, Glasgow.

The Chalmers-Edina Company, 39, Assembly Street, Leith, show at Stand 33-36, Avenue A, the "Edina" portable power mixer. It is British built, and is claimed to be the lowest-priced completely equipped trunk outfit on the market. The mixer, which has a steel drum, 2-h.p. petrol engine, with magneto ignition and all attachments, weighs 1,000 lb.

The Rawlplug Company, Ltd. This company are manufacturers of a patent fibre plug which obviates the difficulties previously encountered in securing a firm fixing into any material. By the use of these plugs fixing can be accomplished with great efficiency and speed. By means of a steel plugging tool or brace and bit a hole can be quickly made the exact size required, and then the patent fibre Rawlplug is pushed into position ready to receive the screw. The plug expands as the screw is turned home, thus ensuring a perfectly firm fixing. It is a labour and time-saving method, and results in a neat job, the Rawlplug being invisible when in position. They are made in all sizes and lengths for use with any screw. The exhibit includes some splendid examples in which the plug can be used to advantage in different materials. From the electrical engineering point of view there is a wide choice of features. There are shown different wiring systems fixed with Rawlplug on plaster, switchboard fittings on polished slate, electric light fittings on glass, marble, plaster, etc. From the builders' and decorators' point of view there can be seen numerous fixtures on concrete, cement, brick, plaster, and metal, etc. The bathroom accessories and other fittings on tiles are well worthy of note, while the other things displayed prove the advantages of Rawlplugs. An expert is in attendance to give advice on the adaptability of Rawlplugs in any material, while continuous demonstrations are given showing how easily Rawlplugs can be manipulated. The business address of the Rawlplug Company, Ltd., is Lenthall Place, South Kensington, S.W.7.

Messrs. Frank G. Price and Co. demonstrate at Stand No. 83, Avenue D, under actual working conditions a novel concrete machine, called the Vibrotamp. This machine, which may be worked by treadle or driven by belt power, calls for no hand labour in the consolidation of the concrete, but depends entirely upon momentum, produced by vibration, for this purpose. The vibrating mechanism, for which patents are pending, comprises a single unbalanced rotor, by means of which intense, compound, high-frequency shocks are communicated to the concrete. The moving parts (confined to a single shaft) are simple and not liable to go wrong, and their simplicity and low friction accounts for the ease with which the machine is driven. At the same stand the products of the Vibrotamp concrete machine are shown in the construction of a full-sized motor garage, demonstrating their application to larger buildings. The patent system of constructing a double concrete wall is of particular interest, the

HOUSE AT ABINGDON. A. W. S. CROSS AND KENNETH M. B. CROSS, ARCHITECTS.

(See page 301.)

principal feature of which is the shouldered, insulated "Limpet" concrete wall-tie, and similarly insulated concrete sills, lintels, etc. Various methods of finishing the rough concrete (both exterior and interior) are shown. Amongst other interesting features are "Pricelite" asbestos cement in the form of slates, corrugated sheets, flat sheets, ridges, etc. "Priceloid" para felts for roofing, sheathing, and damp courses, most of which are exhibited to show their application in actual practice. The "Limpet" washers and bolts for jointing corrugated sheets are also in evidence. Address: 115, Bothwell Street, Glasgow. Telegrams: Price, Scotstoun. Telephone: Western 1814.

Furniture

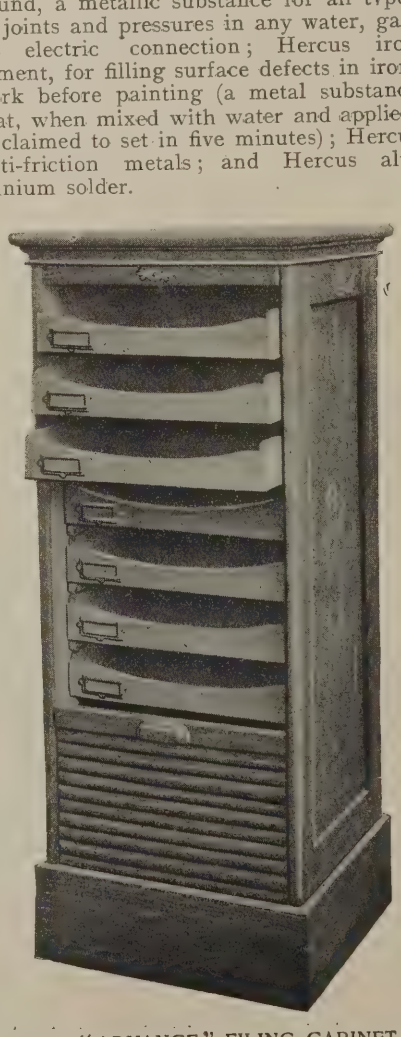
The British Canadian Export Company, Ltd. (of Canada), 83, Pall Mall, London, S.W., show the "Easiwork" ready cut kitchen dresser, and state that this dresser has been accepted by the Ministry as complying with their specifications in State-aided schemes. It is made of Canadian birch and fills the need which was shown at the Ideal Home Exhibition for a kitchen dresser which would contain the advantages of both the British and American ideas for a combined cabinet and dresser. The price is approximately that of a softwood dresser.

The stand of Messrs. Belfrage and Bentley (Stand No. 65, Avenue B) is devoted to showing in an appropriate setting the finest examples of modern craftsmanship as applied to useful and ornamental articles for the home in brass, copper, and other metals. The examples are specially designed by the firm, and every piece of work is designed for a special purpose. Any particular scheme of decoration in art-metal work can be carried out to suit the style of architecture, furniture, etc., of the building for which it is intended. In addition to the more usual self-contained ornaments such as mirrors, jardinieres, coal boxes, vases, etc., the firm specialise also in decorative fittings such as fenders, grate-canopies, lock plates, finger-plates, etc., examples of which are shown. The firm state that their aim is the revival of metal craftsmanship, and maintain that an extremely artistic result can be obtained by handwork. Studio and workshop: 120, Cowcaddens Street, Glasgow.

Among the exhibits by G. A. Ogilvy Millar, of 155a, St. Vincent Street, Glasgow, are three of especial interest to architects, the "Advance" flat filing roll shutter cabinets, the Swiftograph, and the Byron typewriter cabinet. Advance flat filing roll shutter cabinets, which are adaptable for either office or home use, are made in oak or mahogany, and to accommodate six or nine trays. The trays, which are used in a similar manner to an ordinary drawer, are placed one above the other, the cabinet being closed on the front by a roll shutter which operates from the bottom. The cabinet has a good appearance and finish. The "Swiftograph" is an easily-handled duplicator, capable of producing forty copies per minute. One stencil, cut on a typewriter is claimed to give 800 or more excellent copies, merely by rocking the duplicator from end to end. The "Swiftograph," the price of which is very modest, is claimed to be simplicity itself, clean, speedy, and efficient. The Byron typewriter cabinet is the acme of organisation, and takes up very little space. The typewriter stands on the centre of the cabinet, and handy receptacles are provided for everything, thus saving time, labour, and floor space. When not in use the cabinet can be closed and locked without disarrangement of the contents.

Decoration, etc.

The North British Jointing Compound Company, of 170, Hope Street, Glasgow, are exhibiting a number of their well-known Hercus products. Hercus white spirit bath enamel, which is claimed to give a permanent glossy metal hard surface, dries in fifteen minutes after application and enables a bath to be given, say, four coats and ready for actual use the same day. In addition to baths the enamel is used for all kinds of wood and ironwork. Hercus spirit enamels have the same advantages as the bath enamel, and may be obtained in various colours, for use on all wood and ironwork, especially inside work. Hercus spirit stains are supplied in all grades of colours, are claimed to give a permanent metal hard glossy surface, and in many cases to entirely eliminate the necessity of french polishing on inside work. These stains may be used on all woodwork and furniture. Other exhibits include Hercus mopo polish in oil for floors, linoleum, woodwork, and furniture, etc.; Hercus furniture polish reviver to give a beautiful lustre to all wood and iron work, furniture, etc.; Hercus cylinder black enamel, for motorists, for painting cylinders, exhaust pipes, etc.; Hercus jointing compound, a metallic substance for all tvpes of joints and pressures in any water, gas, or electric connection; Hercus iron cement, for filling surface defects in ironwork before painting (a metal substance that, when mixed with water and applied, is claimed to set in five minutes); Hercus anti-friction metals; and Hercus aluminium solder.



THE "ADVANCE" FILING CABINET. (G. A. OGILVY MILLAR).

The stand (Section 58, Avenue F) Willis Heeley, of Clarkston, Glasgow, lined with fibre building board, combi ing a treatment of tapestry wall pap and water paint. The woodwork is stain and varnished and shows the natu grain of the wood, and there is a fil board chimney-piece and picture fra coloured and varnished in oak finis Another feature is a fibre wall t coloured with "Beaudexol" water pa and varnished, giving an enamelled s face claimed to be both sanitary a waterproof. This tile is easily washed, suitable for linings for bathroo dadoes, staircases, and can be made colour in keeping with any scheme of coration. Several samples of both fi wall tiles and plain board are sho with Beaudexol water and oil pa effects. Freret's reinforced conc fencing posts and rails, made in squ and tee posts, are also exhibited. latter, as the name implies, are made tee section, and are used in dividing g dens, etc., in housing schemes, and general estate fencing where low cost durable fencing is required. There five strands of wire fixed to the p by a patent simplex clip, wh allows the wire to run through ea without any damage to the post. square posts, which are used for r courses, etc., give, with a rail of reinfo concrete, a strong, durable, econom fence of simple design and construct The posts, which are claimed to imp with age and to require no upkeep, ca made to any height. Address: Clarks Glasgow.

Heating, Lighting and Sanitation

The chief exhibits of the Caled Manufacturing Company, Ltd., of C Works, Waltham Cross, Essex, consi the Lawside copper boiler, the Caled Unit, and the Solux petrol gas gener The Lawside boiler, the constructio which combines the maximum of stre with the greatest simplicity, give regular and plentiful supply of hot w either for household use or for the l ing of radiators. Larger sizes of boiler are also manufactured for the l ing of public buildings, mansions, pitals, etc. The boiler, which gives combustion, under complete contro means of damper slides and work long periods without attention, will any kind of poor fuel, and is an exce destructor of kitchen refuse. W installing the boiler it may be placed the floor of any room which has t heated, and used without covering, may be thoroughly covered with lating material and all the heat through a pipe system. The l proper consists of a complete and pendent copper unit, of which the wall is made from solid drawn c tube. This special form of constru ensures the free transmission of the mum amount of heat into the boile great number of advantages are cl for the Caledonia Unit, which is a heater apparatus to supply all th water requirements of a modern h The Unit is of cylindrical shape, high and 20 in diameter, and ma placed wherever desired. Heat is su by a gas burner, controlled by a th stat so that as soon as the water re 130 deg. Fahr. the gas is cut off. automatic generators are claimed to cheap, safe, hygienic, and re

THE FREE LIBRARY, CHORLTON-CUM-HARDY.
Architect:—Henry Price, Esq., City Architect, Manchester. Builders:—C. H. Normanton & Son, Ltd., Manchester.

REQD. **PUDLO** BRAND
CEMENT WATERPROOFER

CONCRETE DOMES.

This dome is an example of work which was formerly done with lead or copper over timber framing. The bright, stone-like appearance of a dome finished in cement, when waterproofed with our product, gives an architectural effect more in keeping with the character of many stone built structures.

'PUDLO' Brand Waterproofing Powder was also used in the construction of the largedome to the National Welsh Museum, Cardiff, and upon several other domes at home and abroad.

FLAT ROOFS.

Flat roofs would be in greater demand were the fear of leakage positively obviated. All flat roofs constructed with cement which has been waterproofed with our powder are leak proof and the labour is very little more than with ordinary cement concrete. 'PUDLO' brand waterproofer is used for any receptacle in which water is required to be retained and for any structures from which water and dampness should be excluded.

ASK FOR DESCRIPTIVE BOOKLET—FREE.

SIMPLE. ECONOMICAL. SURE.

Used also for Damp Walls, Flooded Cellars, Leaking Tanks, Reservoirs, Baths, Garage Pits, Concrete Buildings, etc.
Tested by Faija, Kirkaldy, Cork University, the Japanese, Dutch and Spanish Governments, and the most eminent experts.
Used by the Admiralty, the War Office, the India Office, the Crown Agents, the Office of Works, the General Post Office, etc.

BRITISH! and apart from Patriotism, THE BEST!

Manufactured solely by Kerner-Greenwood & Co., Ltd., Ann's Place, King's Lynn.
J. H. Kerner-Greenwood, Managing Director.

"Thermos" FLOORING.

USED AND APPROVED BY
MINISTRY OF HEALTH,
BOARD OF TRADE,
ADMIRALTY, WAR OFFICE,
AND MANY ARCHITECTS.

JOINTLESS FLOORS

CAN BE LAID ON GREEN CONCRETE

FOR HOUSING SCHEMES &
ALL CLASSES OF BUILDINGS,
SHIP DECKS, ETC.
ECONOMICAL — HYGIENIC.

Can be laid on any Suitable Foundation, New or Old.

We are in a position to Promptly Execute your instructions.

Write for Particulars.

"THERMOS" FLOORING Co., Ltd., 171, Queen Victoria Street, E.C.4.

Head Offices:
85, North Oswald Street,
GLASGOW.

N.E. Coast Branch:
Easington Street,
SUNDERLAND.

Agent in Ireland:
F. A. PORTER,
13, Queen's Square, Belfast.

hod of petrol air gas lighting, par-larly adapted to by-pass lighting. A e factory is being developed and ipped to manufacture heating and ting appliances. The main products be the patents of Mr. David V. Tod, aging director, of a new type of port- geyser, large sectional and inde-dent boilers, etc.

n the stand (Avenue E and F) of srs. Falk, Stadelmann and Co., Ltd., ufacturers of gas and electric lighting iances, an original colour scheme s the setting to the latest designs in shade electroliers, and indirect light-through the medium of alabaster and nstone bowl fittings, etc. Those in-ted in period decoration are catered y a display of Jacobean, Louis, and Dutch fitments, statuettes in bronze, tors, table and floor lamps. A se-n of household accessories for heat-lighting, and cooking by electricity gas are also exhibited. In its en- this firm's display is intimately ected with such an exhibition, and is mediate interest to all associated the building trade. Address: 74, 76, 78, Great Clyde Street, Glasgow.

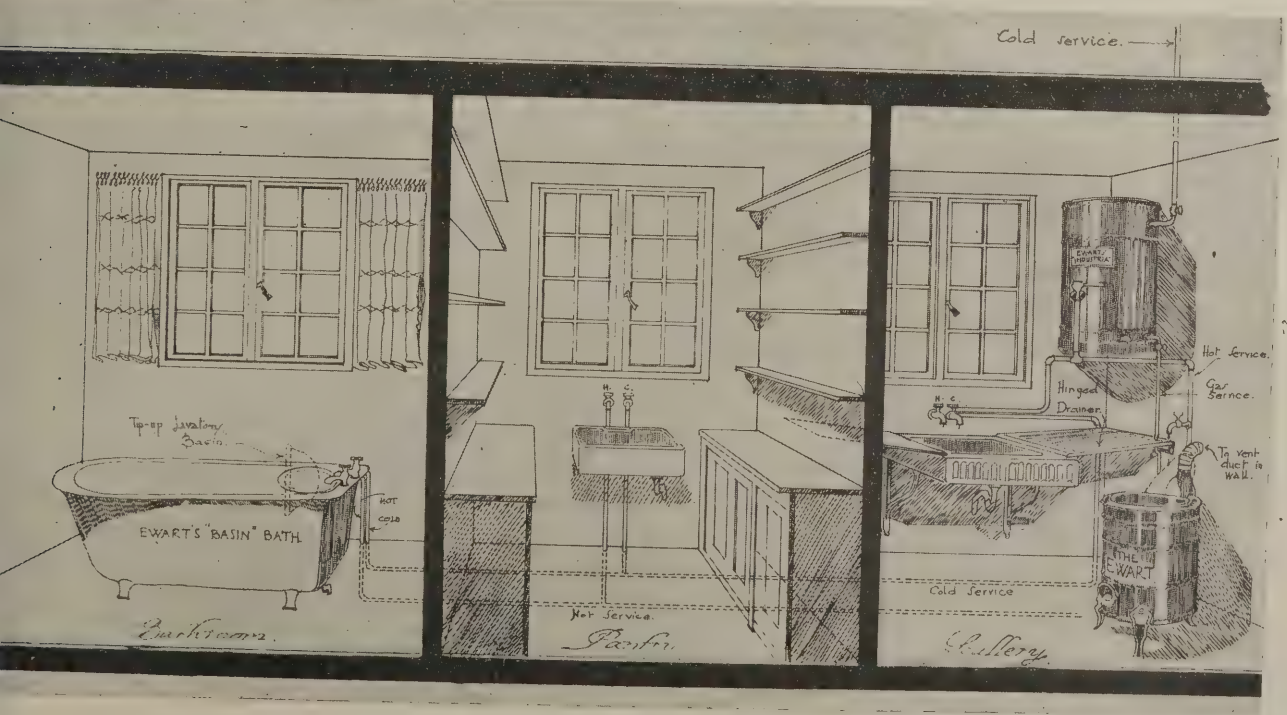
e exhibits of Messrs. Ewart and Ltd., of 346, 348, and 350, Euston London N.W.1. consist of a num-f copper water heaters, including a 5B "Califont," supplying hot water w off taps. The "Ewart" Lightning Victor Geysers are also shown giving ater supply to bath only, and a selec-f porcelain enamelled baths, lavatory , etc. A special exhibit is made of Industria" water heater, which will hot water to bath and sink, and is specially suitable for housing es. A patent combined bath and which effects a considerable saving ce, is also shown. The illustration a suggested method of fixing the stria" water heater where the bath the ground floor, and the water can be placed directly over the gas . Both the water heater and the gas copper are ventilated into one flue, constructed in the "cavity" wall, with the condense outlet at the base, and the "Ewart" earthenware vent brick at the top of the flue. The condense water formed by steam from the gas copper escapes through the outlet specially formed below the fresh air inlet grating, which grating allows a free current of fresh air to circulate through the duct to ventilate and dry it. The "Industria" can be connected to bath, sink, gas copper, or any other tap. The cost of fixing is much less than that of the ordinary hot water supply.

Messrs. John Glendinning and Sons, of 90, West Campbell Street, Glasgow, specialise in fittings for the modern villa and cottage, which includes sanitary, electric, gas, water, and boiler fittings. A good selection is shown on their stand of baths, lavatory basins, water closets, cisterns, seats, cylinders, range boilers, tubs, sinks, pedestals, washhouse boilers, electric and gas fires, light, etc. Their bathroom novelties will appeal to every housewife who values the maximum of cleanliness with the minimum of labour. All interested are invited to inspect their stand in Avenues B and C. They have also a large show room at their premises, 90, West Campbell Street, Glasgow.

The British Commercial Gas Association has a most interesting stand, which is well worth a visit, and among the many things the Association is exhibiting the model all-gas house will perhaps prove the most attractive to the public. This model, designed by Mr. Alfred Cox, a specialist in this particular work, gives an excellent illustration of the value of a complete gas installation in houses which are to be built under the new Government housing schemes. It was one of the prize-winners in the Home Counties area section of the National Housing Competition organised by the R.I.B.A. The cottage is an admirable example of architecture, combining utility with gracefulness of line. The effect for exhibition purposes is heightened by a painted background depicting a rustic scene in a wooded stretch of country. The sense of reality is further increased by the lawns and flower gardens which surround the building. Hidden gas lighting from above sets off the colouring and intensifies the general impression of a country scene under bright sunshine. But of more importance even than charm of appearance, excellent and indeed necessary to the well constituted mind as that must be, is the view taken of the model by the efficient prospective housewife, who has her ideas fixed on economy, convenience, and labour-saving. And here is where the model house comes in as a solution of the peculiarly modern problem. For all its arrangements are designed for the saving of labour. The whole house is lighted by gas; the heating is carried out by gas fires constructed on the latest principles, and designed to warm rooms of any dimensions required; hot water is provided by a gas water heater situated in the bathroom, which acts as a general hot water circulator; and the cooking is done in the scullery by means of a thoroughly efficient gas cooker. In addition to these essentials to the comfort of the modern household, the model is provided with a wash boiler, while, to place a coping stone on the whole scheme, the refuse which inevitably collects in the ordinary home can be easily and quickly destroyed by using the gas incinerator. One point of special importance as making for substantial economy in building this class of dwelling is that chimney breasts are rendered unnecessary by the use of gas. Thus, in the present model house the gas fires, which only need a small flue, are built into the thickness of the outer walls. These fires are a particularly attractive feature of the exhibit.

Labour Saving Devices

The Acme Manufacturing Company of Shettleston, Glasgow, show clothes wringers which are specially designed to fit on to a horizontal board about 3 in. deep by 1¼ in. broad, and state that in



"INDUSTRIA" WATER HEATER: A SUGGESTED METHOD OF FIXING. (EWART AND SON, LTD.)

Scotland the architect who designs a wash-house incorporates such a fixing in his design as a matter of course, and suggest that English architects should also make the necessary provision for it.

Messrs. Magic Appliances, Ltd., of 151-159, Westminster Bridge Road, London, S.E.1, are exhibiting their "Magic" suction cleaner, which is the product of experience gained in the manufacture of many thousands of machines during the last nine years. During this time capable engineers, who are specialists in their work, have concentrated their attention on the improvement of detail; each component part of the machine has in turn received careful attention, and after exhaustive experiments many important improvements have been incorporated. The "Magic" motor is large and powerful, and runs at a speed which is claimed to ensure continuous and reliable service for many years. It is fitted with ball bearings, and its lubrication requires only periodical attention. By an antiseptic deodorising attachment the air which is drawn in through the suction nozzle is filtered; "Florox," a deodorising and oxygenating fluid, cleans the air automatically in the process of cleaning.

The Week's News

(Concluded from page 284.)

Housing at Henfield.

Work has commenced on the erection of thirty-two houses.

Tain Housing Scheme.

The Tain T.C. have decided to apply for a loan of £12,000 for the housing scheme.

Housing at Leake.

Plans are being prepared for the erection of houses at East Leake, both in brick and concrete.

Hythe Housing.

The Corporation have received the sanction of the Ministry of Health to a loan of £39,900 for housing.

Housing at Spilsby.

A start has been made by the R.D.C. on the housing scheme, which is estimated to cost £175,000.

Ashby Housing.

Ashby-de-la-Zouch is erecting sixty houses as an instalment of the scheme to meet the housing difficulty.

Housing at Hartlepool.

The Hartlepool T.C. have decided to apply to the Public Works Loan Board for a loan of £52,000 for housing.

Hackney War Memorial.

Hackney Borough Council proposes to erect in the Town Hall grounds a memorial to municipal officers and workmen who fell in the war.

Newport Builder's Estate.

Mr. George Martin, of Newport, builder, who died on July 19 last, left estate of the gross value of £15,988, with net personalty £13,840.

Cobham Housing.

The Epsom R.D.C. has made application to the Ministry of Health for permission to purchase land at Tartar Hill for the erection of houses.

Llanelly Housing Progress.

Ninety-five houses are in course of erection, fifty of which were in an advanced stage of completion. With regard to the housing scheme on the Capel site, official sanction has been received for accepting the tender of Mr. John Williams for the building of fifty houses at a cost of £45,852.

Tredegar Housing Scheme.

The Tredegar Council have adopted the draft of the form of contract for the first hundred houses under their scheme between the Council and the Building Operatives' Guild.

Housing at Glasgow.

Mr. R. J. Walker, architect, Glasgow, has prepared plans, and building commences on an early date, for eight terrace houses at Cambridge Drive, and seven terrace houses at Kelvinside Gardens, Glasgow.

West Dean Water Supply.

The West Dean R.D.C. are now considering the provision of a water supply for about twenty villages in their district covering an area of seventeen square miles in the Forest of Dean, and have instructed W. H. Radford and Son, of Nottingham, to prepare a scheme.

Professor J. B. Farmer.

Professor John Bretland Farmer, D.Sc., M.A., F.R.S., of the Imperial College of Science and Technology, has been appointed by an Order of Council dated the 28th day of August, 1920, to be a member of the Advisory Council to the Committee of the Privy Council for Scientific and Industrial Research.

Driffield Housing Scheme.

The R.D.C. have decided to apply for permission to borrow £27,000 for the building of 27 houses as the first instalment of the Council's housing scheme. The Council have also decided to apply for a further loan for the purchase of building sites at Beeford, North Dalton, Kilham, Langtoft, Middleton, Nafferton, Watton and Wetwang.

Glossop's Garden Suburb.

The Glossop Housing Committee are making excellent progress with their scheme, which will finally result in the erection of 150 houses, and the Sheffield Road site will be in the nature of a "garden suburb." The estimated average cost per house, including the land, road-making, etc., is round about £1,000. In connecion with Glossop's present progressive scheme of improvement, plans have been prepared for the laying out of a large tract of land known as the "Sandhole," not far from the centre of the town, and the idea is to lay this out in the form of gardens, etc., with a new connecting road between two important parts of the borough.

Newcastle Hospital Extensions.

The Duke of Northumberland has formally opened the Orthopædic Extension of the Royal Victoria Infirmary, Newcastle, which is to be the centre for Northumberland, Durham, and Cumberland. The hospital stands upon a site on the Castle Leazes, given by the Newcastle Corporation and the Newcastle Freemen, and is connected with the Royal Victoria Infirmary by a corridor. The buildings, one storey high, cover several acres, and provide accommodation for 500 in-patients and for the treatment of a large number of out-patients. The buildings are in three groups. The first group on the west side of the main corridor consists of a block for hydrotherapy, electrical, massage, and X-ray treatment. To the north of this block lie the administrative offices, adjoining which are the curat workshops, in which work was started April, 1919. The third group consists kitchen and dining-rooms, gymnasi and stores. The cost of the whole of t buildings when completed will be ab £160,000.

Nottinghamshire New Village.

Good progress is being made with erection of the houses at Haggonfie The new village is to be tern "Rhodesia." Building operations w commenced in May, sixteen houses h been tiled in, and the first pair will complete in the course of a few days. all, 116 houses are to be built under present scheme. The village is laid at the average rate of ten houses to acre, and the houses are grouped aro a small wood, which it is intended to tain as a natural feature. The n features of the planning are no stra roads, no straight lines of houses, pl of gardens and open spaces, and all houses have a south aspect as fa possible. It is probable that the sch will be extended at an early date.

The New Government Building.

Demolition work in connection with new Government building which is t erected in the Waterloo Bridge appr opposite Somerset House will comm in about two months. The new buil will be of Portland stone in En Renaissance style, and follow the arch tural details of Somerset House wit being exactly similar. The effect aim will be pleasing but unobtrusive, par larly in the matter of height, w must, of course, be relative to the building. There will be no internal a but offices on each side of a central ridor, these to include the Duchy o caster's also. Any commercial buil erected on the remaining space at Strand corner must conform general the new structure in material and de and thus preserve the unity of the frontage. Some difficulty is present the steep descent of Savoy Street t Embankment, at which point it is n than 34 ft. below the level of the B approach in Lancaster Place, but intended that rooms in this lower p the new building which are too da otherwise unsuitable for offices sha used for storing records, heating appa etc. At present no approximate dat be given for the completion of the pre A great deal depends on the nature foundations, and it may be necessa sink piles into the bed. The schem be carried out by architects of the Of Works, under the direction of Sir Baines, C.B.E., M.V.O.

Trade and Craft

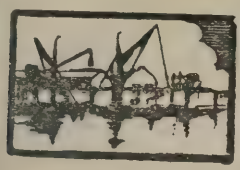
Messrs. Lewis Berger and Sons, L

Messrs. Lewis Berger and Sons, Homerton, London, E.5, send us monthly magazine. It is brightly w and brightly illustrated, and intense teresting.

Standardised Disinfectants Co.,

We have received from Messrs. Gr Miller and Co., 30, Wilson Street, L E.C.3, a booklet describing a wood vative and stain, "Brunolinum." claimed that this will penetrate in wood by it own action, and so eli the process of forcing the preserva under pressure.

No. 27.



BUILDING MATERIALS

We shall be glad if you will send us your enquiries, and would therefore ask you to put our name on your buyers' list for Materials used in building construction.

Cement, Limes, Bricks, Partition Blocks, Tiles, Slates, Chimney Pots, Sanitary Ware of all kinds, Pipes, Gulleys, Interceptors, Fire Bricks, Fire Clay, Fire Cements and Refractories of every description. Acid resisting Goods, and Acid Cements, also Fiberlic the root Fibre Board, Asbestos Sheets and Tiles. "Sank" brand Paints and Distempers.

We deliver by our own lorries 50 miles round London, and by vessel or truck to any port or station in the United Kingdom.

J. H. SANKEY & SON, LTD

Estd. 1857. HEAD OFFICE, Essex Wharf, Canning Town, London, E.16.

CRANE

PIPE FITTINGS

in

Malleable Iron, Wrought Iron, Soft Cast Iron — Black and Galvanised

GUNMETAL

"EVERYTHING FOR ANY PIPE LINE"

For STEAM, WATER, AND GAS

VALVES AND COCKS

GUNMETAL and IRON (Screwed and Flanged).

PLUMBERS' BRASSWORK.

PIPE HANGERS, PIPE FITTERS' TOOLS.

Distributors of HEATING AND SANITARY MATERIALS.

CRANE-BENNETT LTD

45-51, Leman Street, London, E.1.

Telephone: 5 Avenue (4 lines).

Telegrams: "Spruceness 'Phone, London."

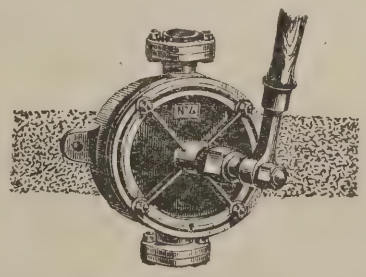
PUMPS

Willcox's SEMI-ROTARY "WING"

For House and Estate water supply, and general lifting and forcing. Double or quadruple action. Mounted or unmounted.

Other Specialities: Diaphragm Pumps for Trenches, Excavating, etc.; "Jones-Willcox" Patent Wire-bound (non-rubber) Hose; "Penberthy" Automatic Cellar Drainers.

Let us quote for your requirements.



W. H. Willcox & Co. Ltd.

32-8, Southwark St., London, S.E. 1.

CONTENTS.

Edited by PROFESSOR A. E. RICHARDSON, F.R.I.B.A.

Notes and Comments: Trade Unionism Indicted; Frozen Peat as a Building Material; Studying Church Architecture, 309. The New York Explosion; The Mall and the Admiralty Arch; Breaking Up Old Chelsea; Why Mean Schools are Built 310

Architectural Causerie: Notable Lighthouses. By Aero 311

The Week's News 312-333

The Development of Kingsway: Its Latest New Building 313

Germany and Post-War Building ... 317

Publications Received... 318

Coming Events 318

Labour and Housing 321

New London Bank 322

Bristol Housing Scheme 322

Glasgow Housing Exhibition ... 328

Competitions Open 331

War Memorial at Euston 331

Askern Garden City 332

Weekly Housing Report 332

Enquiries Answered: State-aided Housing; Luxury Buildings and Housing Schemes 332

Trade and Craft: "World-Wide Publicity"; New Motor-car Factory Floor; A New System of Slating 334

Current Prices of Materials... xvii, xviii

Complete List of Contracts Open xx, xii

ILLUSTRATIONS:

Andrea Palladio 307

French Façades. 8.—Bibliothèque Ste. Geneviève, Paris. Labrouste, Architect 308

St. Catherine's Point, Isle of Wight 311

Current Architecture. 42.—Victory House, Kingsway, London. Trehearne and Norman, Architects 315

Victory House, Kingsway: One of the Entrances, 313. Ground and First Floor Plans, 314; Elevator at Upper Floors ... 317

Air Views of Buildings. 5.—Bath: The Crescent ... ...

Architects' Working Drawings. 18.—Victory House, Kingsway, London. Trehearne and Norman, Architects ... 3

Bristol Housing Scheme: Typical Elevations ... ...

House at Montreal: Plan of Ground Floor and Garden ...

Modern Domestic Architecture. 17.—House at Montreal. Septimus Warwick, F.R.I.B.A., Architect .. ..

War Memorial at Euston. R. Wynn Owen, A.R.I.B.A., Architect .. ..

Askern Garden City. G. E. Withers, F.R.I.B.A., Architect ... ...

Anti-Hydro Floor in a Motor-car Factory, Ladbroke Grove, London ... ...

SPEEDING-UP.

SPEEDING-UP is attaining the end desired in the shortest possible time. If you need material and service in any constructional work—then an enquiry to us, letter, 'phone or wire, is the first step to speedy satisfaction of your needs. We have seen to it that this promise can be fulfilled.

Stocks of
British Standard Sections in Joists, Channels, Angles, Tees, Flats, etc.

DAWNAY DEFINITIONS—2.

ARCHIBALD D. DAWNAY & Lim

Telephones: Battersea, 1094. (3 lines).

Steelworks Road, Battersea, S.W.11

Telegra: "Dawnay, Ba Londo

Telephone: Cardiff, 2557

And at East Moors, Cardiff.

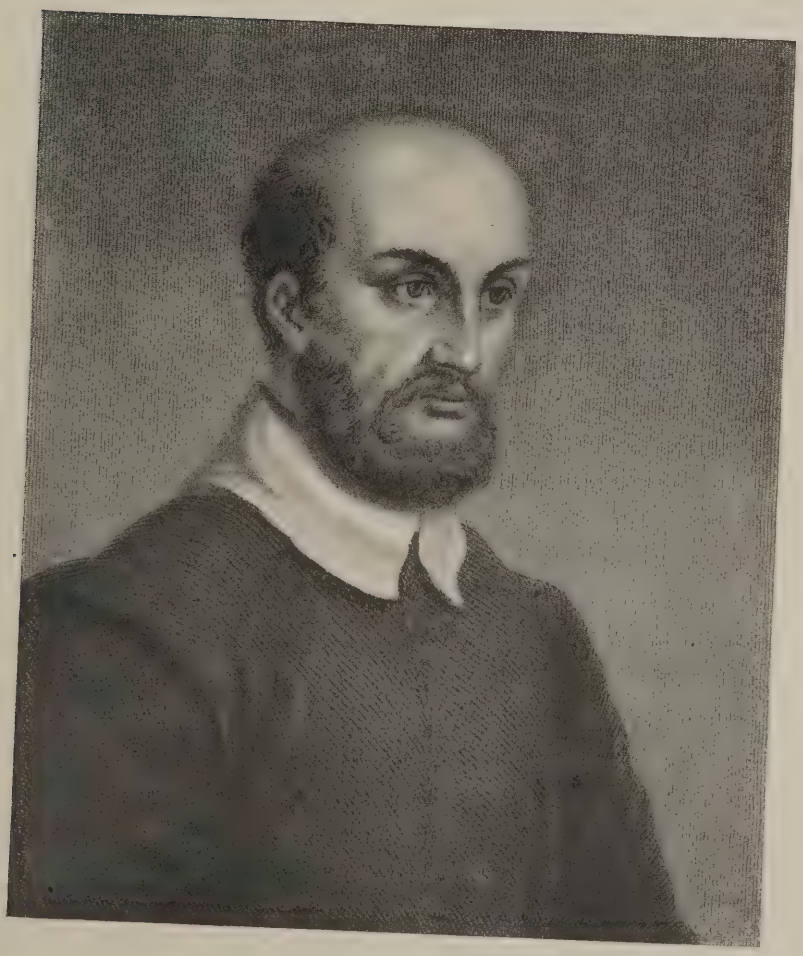
Telegra "Dawnay, (

Wednesday, September 22, 1920

Volume LII. No. 1342

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



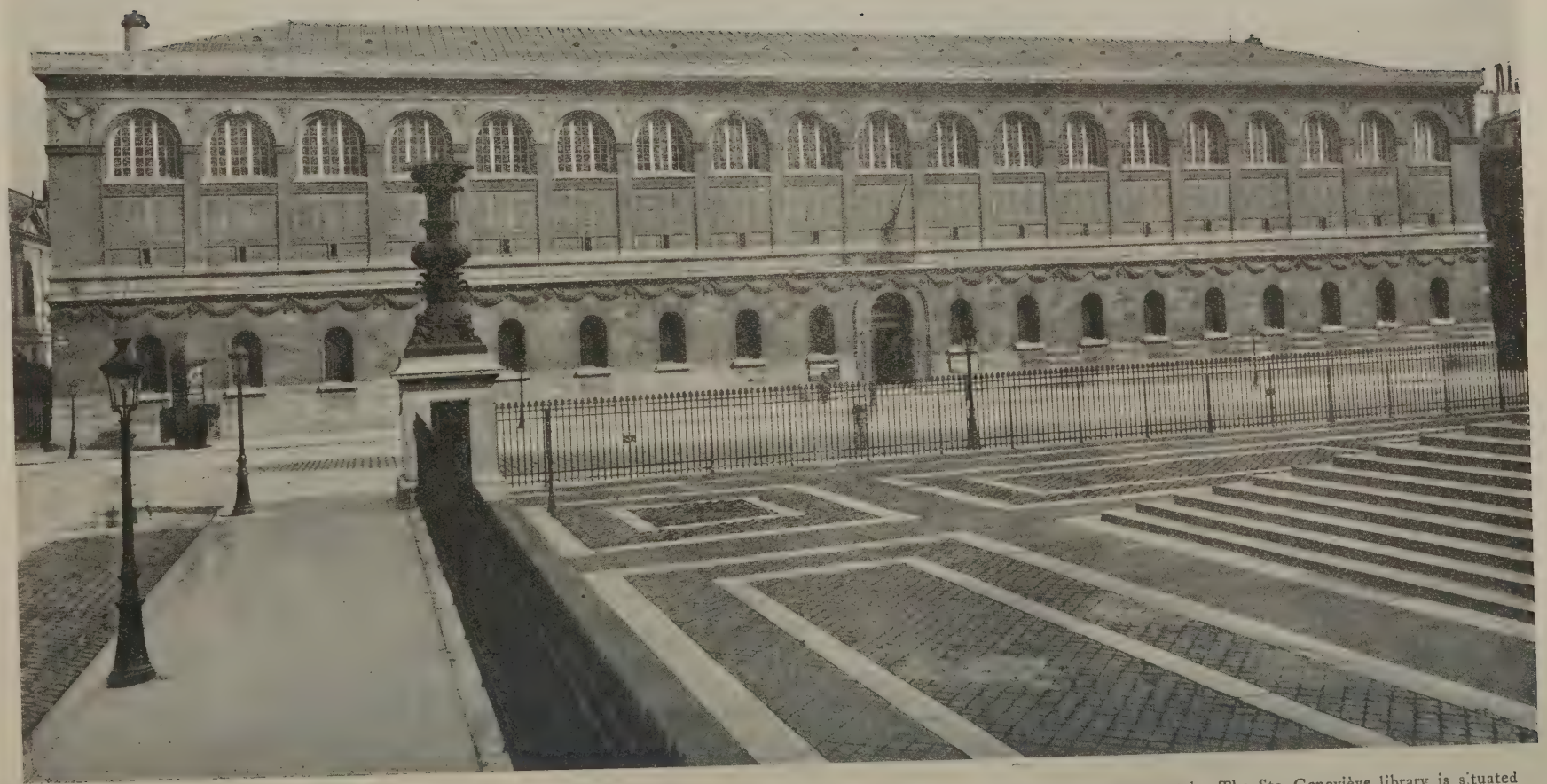
ANDREA PALLADIO.

Andrea Palladio (1518-1580), a native of Vicenza, had for his contemporaries Vignola, Scamozzi, and Serlio, and was, in their day, esteemed more highly than they. Yet it is for his scholarship, and for his matchless and enduring influence, for his teaching rather than for his example, that to-day his reputation stands high. He built many churches and palaces, and a large number of country villas; but what has secured his immortality is his authorship of the "Four Books of Architecture," which, first published in Venice in 1570, has passed through countless editions, chief among them for its effect on English architecture being that edited by Inigo Jones, to whom it was an unfailing fount of inspiration.

27-29 Tothill Street, Westminster, S.W.1.

French Façades. 8.—Bibliothèque Ste.-Geneviève, Paris

Labrouste, Architect



...in so many fine libraries, general and special, and some of them are architecturally monumental. The Ste.-Geneviève library is situated ... after the Revolution of 1789. The present building

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, September 22, 1920

Volume LII. No. 1342

Notes and Comments

Trade-Unionism Indicted

A DAMAGING indictment of trade-unionism has been formulated by Lord Weir. Its very moderate tone makes it the more effective. It seems to have been written more in sorrow than n anger. He shows that what is called "Labour unrest" s really of political complexion. The trade-union machine, e declares, is being deliberately used as an engine for ne destruction of the present system of industrial rganisation. Organised Labour is trying "to make the resent structure of industrial society so inefficient as to ender it unworkable, and thereby to bring about a reakdown of the system and its replacement by one of n undefined character." He complains of the sinister titude of the Trades Union Congress at Portsmouth, hich might have done much, but did nothing "to conince the community of the statesmanship of Labour." did not, for example, urge that the trade unions should sit down with the employers' organisations and eal at once with the problems of freedom of employment nd of remuneration by results in a genuine and sincere irit of co-operation." It did not advise the Electrical rade Union that it was wrong to protest against the tention of a non-unionist foreman (but luckily the T.U. dispute is a closed issue, settlement having been ached last Thursday, the workers giving way on the int). It did not advise the ships' platers on the Clyde, no are quarreling with their helpers, to submit the dste to an impartial committee of trade unionists. It did t suggest the appointment of a committee to inquire ether the Ironmoulders' Society is justified in refusing allow "ex-soldiers, disabled men, unskilled men or men, to be trained and employed to assist in bringing out the output required, thereby increasing our exports, ping to pay for our imports, and bringing down the t of living." This short-sighted selfishness on the t of the ironmoulders is depriving other workers of opportunity of earning millions of pounds for work t is now necessarily being sent to France and Belgium. is indeed a strange quality of mind," one cannot but ee with Lord Weir, "which is directing a British trade on to accept with equanimity the situation of British ineering firms paying wages to an unskilled Belgian rking on payment by results in Belgium to produce tings for Britain, and which at the same time prevents every means in its power these same firms from ploying an out-of-work unskilled Britisher, even an soldier, to carry out that same work." Lord Weir lares that if the Congress had kept itself free from rnational politics, and had sincerely addressed itself direct action on the conditions of labour at home, it d have so affected the conditions governing produc- as rapidly to bring down the cost of living, raise the dard of earnings and of living, and go far to help the orable housing situation. He declares that it berately shirked this service to the community, and that, "put plainly, the policy is: Do everything to overturn the present system, but on no account help in any direction to repair its faults, however obvious these faults may be, and however fruitful and effective such repair would prove." He believes that it is of the utmost importance to make this issue perfectly clear, so that the genuine British workman may understand it; for he will not fail to-day—he has never failed in the past—"to recognise and deal with those who are letting him down." These considerations—Lord Weir deserves the thanks of the industrial community for his frank and fearless statement of them—will no doubt be duly taken into account in the struggle for which the two sharply divided sections of the so-called Builders' Parliament are now preparing. The light Lord Weir's observations shed on the industrial situation should enable a more thorough understanding of the habitually irreconcilable attitude of the workers, especially those in the building trade. His theory of causation goes far to explain the wanton breaches of agreement of which building-workers have been on several notorious occasions proved guilty.

Frozen Peat as a Building Material

"Our own correspondent" of the "Daily Mail" reports, as if it were an epoch-making discovery calculated to lift the housing difficulty out of the morass in which it has sunk almost out of sight, that a civil engineer and an architect have invented a new process of preparing frozen peat as a building material. But what is going to happen when a thaw sets in? or when, the coal-strike having failed, warmth is again introduced within the walls of frozen peat? It would be decidedly awkward if the walls melted away just as we were beginning to get comfortable in bed. Still, as the Stockholm Scientific Engineering Society is investigating the matter, 'tis not a thing to laugh to scorn, as Shakespeare's huntsmen sing; though we fear that the invention could at best convey but cold comfort to the housing expert, who is already snowed under with fancy materials and fantastic suggestions. Frozen peat may be taken as supplementary and alternative to baked mud; the former being applicable to winter quarters, and the latter to the summer residence.

Studying Church Architecture

A newspaper correspondent who has been spending his holidays in West Sussex makes a sensible suggestion, or rather appeal, to the vicars of old churches. He thinks that an abstract and brief chronicle of the history of an old church should always be set up in the porch—not to save mean folk the expense of buying a general or a local guide-book, nor to spare lazy persons the trouble of using it, but to supply the notorious deficiencies of such manuals, which seldom condescend to treat at all adequately any building that is small or remote. One has found in countless instances that a church or other

interesting building that happens to be a mile or two off the beaten track is very lightly dismissed by the professional compiler of guide-books. It is partly for this reason, no doubt, that many incumbents of interesting churches have anticipated our holiday-maker's request. Occasionally the information is written up on a board or a card, and sometimes it is conveyed in a brochure that the vicar has gone to the expense of pr.nting—an expense that, being now increased threefold, is not likely to stimulate this amiable practice; more especially since the request that those who take away a copy of the pamphlet should put a small donation in the money-box is too often ignored. It is a great pity that these essays in antiquarianism should be in any way discouraged, or to any extent discontinued; for, besides disseminating interesting information and stimulating the love of architecture, they offer an incentive to the vicar to study more persistently and intensively the arcana and the architectural features of his own church. If, however, he has no skill in such matters, and feels himself incompetent to undertake the task, let him call in the aid of some architect having—as all architects should have—a taste for archæology; or let him invite the nearest architectural association to pay the church a visit and depute one of their number to describe it. They will do it very cheerfully, asking no greater reward than the pleasure of spreading architectural information and encouraging the study of buildings.

The New York Explosion

It is not difficult to imagine the devastating effect of a bomb exploded amidst a crowd of skyscrapers. It is not yet known exactly, and perhaps never will be, how many persons perished by the explosion in the financial quarter, Wall Street, New York, between the Stock Exchange and the premises of Messrs. J. P. Morgan; but if the estimate of thirty killed and three hundred injured is approximately correct, the wonder is that the casualties were not more numerous, as they would have been if the new buildings had not stood firm. It is not reported that any of these buildings were utterly destroyed, although, of course, many of them were severely shaken and are greatly disfigured, the material damage being roughly calculated at £400,000. As the Americans invariably investigate such matters very thoroughly, a detailed report on the behaviour of the various systems of construction under this terrible ordeal by bomb may be expected to yield much practical interest.

The Mall and the Admiralty Arch

At last the Admiralty Arch is being set free from obstruction. The temporary premises of the Liverpool and London and Globe Insurance Company at the Cockspur Street corner of Trafalgar Square are about to be pulled down, revealing a new view of the Mall as one moves along the Strand towards the Arch. This clearance is the preliminary stage of a scheme decided upon some seven years ago by a joint committee representing the Office of Works, the London County Council, and Westminster Council, with the assistance of Sir Reginald Blomfield. It is gratifying to record that when the scheme was formulated—it includes a curved treatment of new frontages for Spring Gardens, and the erection of a colonnade to correspond with that at Drummond's Bank—the insurance company showed commendable public spirit in making their own convenience subsidiary to the requirements of civic amenity. The area of the temporary premises which they were then allowed to build will now be incorporated in the roadway, which will be to that extent lss mean. But gratitude for such small mercies should not prevent the patriotic Londoner from clamouring for further concessions here and now. Everything that tends to cramp and confine the Arch and obstruct the view of the Mall should be swept away regardless of expense. But the civic courage of our rulers is lamentably inadequate to such drastic reforms.

Breaking Up Old Chelsea

Nervous apprehensions about Chelsea are probab baseless. Vague and disquieting rumours are aflo however, that the "improver" has cast his baleful eye Cheyne Walk and other glorious "bits of Old Chelsea and the bare thought that these bits may ere long either totally scrapped or else transformed out of recognition has horrified the sensitive folk who lo Chelsea because its old houses are exquisitely beautif and because a host of illustrious Victorians found th so. The place is haunted by the (more or less) hallow shades of the Carlyles and their eminent frien by Maclise and his artistic and literary circ George Eliot and her worshippers, Whistler a his satellites. But Chelsea, of course, was alwa a resort of genius, although for us it is redol chiefly of the memories of the men and wom who set their seal on the nineteenth century. I their sake alone it would be worth while to gu jealously the precincts of "Cheyne Walk and The about." as Mr. Reginald Blunt entitled the delight book that the district inspired, and for which it suppl a plethora of fascinating material. Nor can we aff any diminution or desecration of what Mr. Bl describes as "its irregular vista of enticing brown hous standing well back from the pavement, with little sto paved courts and flower-beds between, and fine old i gateways and railings, lamp-brackets, and tor holders, and great brick-built pillars with balls and va atop." Mellow brickwork, shapely roof and dorm graceful balcony and veranda, hooded doorway green-shuttered window, combine to give Old Chelse charm that, coupled with its glorious associations, sho render it perpetually immune from the exasperat attentions of the Vandals.

Why Mean Schools Are Built

With opportune relevancy to the Mayflower Pilgrim Fathers celebrations, "The Times" Educati Supplement prints a most informative article on what been and is being done to promote education in United States. The author of the article, Mr. P Claxton, United States Commissioner of Educat shows the nobility of the American ideal and sentim on this subject. "Among us," he says, "it is mor less generally understood that in a democracy like all things wait on education—the public health, mat wealth, civic righteousness, moral purity, poli wisdom, individual happiness, strength and safety State and nation." Would that we could claim with confidence that this is also the ideal of the Eng democracy, who, we fear—nay, we are only too certa greatly and very stupidly undervalue education in every form, foolishly regarding it as being at best a ne sary evil, a sort of punishment inflicted on them for t sins, or a yoke imposed on them to keep them in sub tion. And a mean conception of education implies m school-building as a certain consequence. In any c munity setting due value on education and having thing like a just appreciation of its far-reaching rami tions, the impudent proposal some few years ago to b elementary schools that were to be utterly destitut adornment could not have been made with impu Mr. Claxton mentions, in the course of his valuable stimulating article, that the grants of land made by American State for educational uses now reach app mately the grand total of 150,000 square mil "nearly three times the total area of England." It rather unkind to mention this; for it reminds us puny, after all, is the offer by our Government of a acres in Bloomsbury as a site for London University offer made (and not yet accepted) nearly a hundred y after the University was founded. Ninety-four old and still homeless! That is an index of the al too passionate regard in which education is hel England.

Architectural Causerie: Notable Lighthouses

(Concluded from No. 1340, page 255.)

THE Phare des Héaux de Brehat, in the département des Côtes du Nord, is also shown in Reynaud's book. This tower has dignity, and rises in two heights 150 ft. from the foundation of the rock. After a year's preparation the works started in 1836, and the lantern was added in 1839.

* * *

Lighthouses make a fascinating theme for gossip, but t is only possible to sketch the whereabouts and the general characteristics of these lamp standards of the ea and coasts. To enter upon a description of the ptical apparatus would occupy space tediously. Sufficient it is that we know of three different systems of lighting—the catoptric, the dioptric, and the catadioptric. The first-named system allows the rays of light to be eflected from the faces of incidence, such as silvered irrors of plane, spherical, parabolic, or other profile. The dioptric system allows the rays to pass through ptical glass, and to be refracted at the incident and mergent faces. The third system is a combination of the ther two: the rays of light are refracted at the incident ace, and are again refracted on emergence at the third ace. The first-named system was invented in 1764, the econd in 1786, and the third in 1823, both the latter eing the invention of Fresnel, whose data still form the asis of the modern calculus for this subject.

* * *

When Smeaton built the third Eddystone, he designed n iron chandelier to take the superfine wax candles tended to light the Channel. A few years later oil lamps with flat wicks found favour; but it was not until the invention of the Argand burner, in 1780, so proudly shown in the pages of contemporary illustrated encyclopædias, that any real advance in illumination was made; but in many out-of-the-way places wood or coal was used as late as the nineteenth century to give light in lantern towers. With the invention of the Argand burner came the use of sperm, and, later, colza oil; and in the 'seventies a new type of burner was invented for burning petroleum.

* * *

Things have changed very much since the days of the wooden walls; yet that period is not so far distant—only a matter of sixty years or so. There are now well over 1,200 lights in the United Kingdom, and many lightships, fog-signals, and submarine devices. In the whole realm of architectural engineering there is no better tradition than that surrounding the evolution of the lighthouse; indeed, none other calls for a nicer adjustment of the principles of the scientific art of the architect and builder. Not so long ago one of the problems given at the Ecole des Beaux-Arts was the design of a lighthouse, and this should prove an interesting subject for a future Grissel prize at the Institute. For it involves no small degree of architectural as well as engineering skill; and although architects who are not engineers would hardly care to undertake such work even if it chanced to come their way, they may nevertheless derive much profit from studying attentively the best examples of it. For of all structures the lighthouse is the supreme example of expression of function through form.

ST. CATHERINE'S POINT, ISLE OF WIGHT.

The Week's News

Peterborough Cathedral

Having received £5,000 towards the £30,000 needed for the restoration of Peterborough Cathedral, the committee will proceed at once with the repair of the eastern chapel.

A. and S.A.P.U.

The Architects' and Surveyors' Assistants' Professional Union has taken offices at 30, Sanctuary House, 33, Tothill Street, Westminster, S.W.1. Mr. Chas. McLachlan, A.R.I.B.A., is the secretary.

Huge American Factory

A gigantic factory, covering 35 acres, is being erected at Tonawanda, a suburb of Buffalo, U.S.A., for the Dunlop and Rubber Corporation. Though the foundations were begun only in April, it is expected that it will be completed before the end of the year.

Southwark Cathedral Restoration

A strong movement is on foot to further restore the ancient fabric of Southwark Cathedral. The restoration and upkeep of the fabric has always been a big item of expense. But for the labours of Gwilt, the architect, it is doubtful whether any part of the ancient masonry would now survive the ravages of time.

Housing at Rugby

The Rugby Urban District Council has arranged a loan of £14,900 for the purchase of land for houses at Dunchurch, Hillmorton, and Wolston, and the erection of houses at Bilton and Willoughby. Sanction had been received to the borrowing of £32,500 for the Hillmorton houses, £22,000 for the Wolston houses, and a further sum of £11,500 will be required for the Dunchurch houses.

Canning Town War Memorial

A novel war memorial, erected at Canning Town, takes the form of a chapel, which is full of interesting details. The chapel bell has come from Bruges, the hinges on the big door have been brought from Ypres Cathedral, and the lock from Bapaume, the hinges of the smaller door from Dixmude, and the lock from Peronne. One of the altar fittings was rescued in Macedonia from a Greek chapel between the British lines.

Scottish Housing Sites

The Scottish Board of Health report that, as a result of arrangements made by them whereby the Valuation Office of the Board of Inland Revenue is available to conduct negotiations on behalf of local authorities, considerable reductions have been effected in the prices asked by owners of land. At August 31, 1920, the Valuation Office had effected a reduction of £172,572, or 27 per cent., on the prices asked by owners, the adjusted price averaging £177 per acre.

£3,000,000 Town-planning Scheme

The details of a great town-planning scheme at Manchester, which it is estimated will cost £3,000,000, and which it is hoped will provide for development during the next seventy-five years, have been explained at a Ministry of Health inquiry at Manchester Town Hall. The Deputy Town Clerk (Mr. P. M. Heath) said the scheme affected 5,269 acres on the southern side of Manchester, and they wanted to develop this area on ordered lines. The main arterial roads were planned, and three of the fifty-six proposed new streets were to be 100 ft. wide. New houses would vary from ten to sixteen to the acre. In the densest part of Manchester there were sixty-eight houses to the acre. The building of warehouses and factories, except such as produced no inconvenience, would be confined to the eastern portion of the a Power was sought to prohibit offensive advertisem and to prevent gardens or allotments being kept in a s of nuisance. Counsel representing Cheshire author said it was estimated that the main roads would £75,000 per mile. There was opposition from railw some property owners, and Cheshire local authorities

Building by Private Enterprise

The Government free grant of £260 to £230 to pr builders continues to yield excellent results. E week shows a notable advance in the number of h completed, and a record was reached recently, payment was made in one day in respect of forty completed houses. Figures show that 1,325 houses now been finished, and that plans have been approv 19,200 houses which will eventually become eligibl the grant. This total is increasing steadily. Government is now committed to a paymen £4,648,000 in respect of these houses.

The Cunard Building, New York

In the embellishment of the great hall in the Cunard Building at New York the opportunity has taken to engage the services of some of America's artists. This spacious hall on the ground fl destined for the sale of saloon and cabin ticke passage to all parts of the world. Barry Fa will be represented by four great wall maps; Ezra W by the ceiling decoration, reminiscent in parts Villa Madama, with the added opportunity of portr four voyages of discovery—those of Columbus, Ericson, Cabot, and Drake. On the floor, unde central dome, a compass in coloured marbles will p the true north, and will be encircled by a 4-foot r bronze, decorated in low relief from the designs o Gregory, who also will contribute two addition reliefs in other parts of the floor. The remainder room is simple, but big in scale, and well lighted. planned that in May, 1921, those who are intereste see in place the beautiful designs these gentleme now at work upon, if this be not one of those s which "gang aft a-gley." The Cunard Building, and illustrations of which were published in our las was designed by Mr. B. W. Morris, the consulting tects being Carrère and Hastings.

Health and Housing

At the annual conference of the Sanitary Insp Association, held at Margate, under the preside Sir James Crichton-Browne, Mr. Foley Cass called attention to the existence of areas of hou perty which, while unsatisfactory, were not bad to call for schemes of "reconstruction," and which be ameliorated at comparatively small cost. He a resolution in favour of empowering local author statute to carry out schemes of amelioration in suc Much had been done, he said, by some local aut —especially in Birmingham and Nottingham— respect; but existing powers were not sufficient s the country generally was concerned. Mr. Spears (West Bromwich) moved an addition ask powers to take land. The resolution, with the a was adopted. The President congratulated the ence on the resolution, and the addition, as the the homes of the people depended upon their su ings. A resolution, moved by Mr. F. Barnett (H that the Ministry of Health should seek legislative to enable health officials to deal promptly with who were responsible for insanitary conditions dwellings, was also adopted.

(*News continued on page* 333.)

The Development of Kingsway

Its Latest New Building

ONE more building has been added to Kingsway by the completion, to Messrs. Trehearne and Norman's designs, of Victory House —one of the first important buildings in ondon to be designed and completed since the Armisce. It seems only yesterday that the Opera House was course of erection, and now it is completed, and is a cture theatre, after having well-nigh ruined, and broken e heart, of its unfortunate projector, the late Oscar ammerstein, and having proved, once and for all, that pera in England, on a grand scale, is not to be.

Ten years ago this new thoroughfare was a wilderss of demolished brickwork and masonry, and botanists scovered, springing up from its rubbish heaps, the se-bay willow-herb, but to-day it may be looked upon the most modern business street in London. It is the siness street of the future, too.

In our issue of January 4, 1911, a writer of that time alt with the development of Kingsway in the early ages, noticing Messrs. Gibson, Skipworth, and ordon's Koh-i-noor House, Mr. Belelier's Holy rinity Church, Sir (then Mr.) Edwin Lutyen's fine Lincoln's Inn House, business premises by Messrs. Gordon and Gunton, and Mr. Henry Tanner, jun., the Gaiety Theatre (of which Messrs. Ernest Runtz and Ford and the late Norman Shaw were the joint architects), the great "Morning Post" offices (Messrs. Mewes and Davis), the Waldorf Hotel, flanked by the Aldwych and the Strand Theatres, and the church of SS. Anselm and Cecilia, by Mr. Frederick A. Walters.

CTORY HOUSE, KINGSWAY: ONE OF THE ENTRANCES. TREHEARNE AND NORMAN, ARCHITECTS.

The period of development since that time has been marked by the activities of one firm of architects almost exclusively. With a few exceptions, all the later work has been executed to the designs of Messrs. Trehearne and Norman. Starting with Central House, a building designed for offices with no specific tenant in view, they shortly erected a similar building—East Africa House, and these two corner buildings now serve as wings to a massing of which Mr. Frank Atkinson's G.E.C. building is the central feature. Regent and Windsor Houses and Imperial House quickly followed.

Architects had to take Kingsway as they found it, and many of these new buildings were regulated as to height and character by those adjoining. For example, Windsor and Regent Houses had to follow the horizontal lines of International Buildings, though doubtless the clients would have liked to go higher. Imperial House, next door to W. H. Smith and Son, had no such restrictions, but even then the architects did not foresee that they were destined to complete the whole space between Messrs. Smith's and Koh-i-noor House.

A milestone in the development occurred with the inception of the scheme for the south-east corner. The L.C.C. first proposed to associate Sir Ernest George with Messrs. Trehearne and Norman in this design, but the arrangement fell through, and the latter firm's design was proceeded with.

Empire, India and Canada Houses are part of this group, and the whole is now being completed by Connaught House adjoining. Before Empire and India Houses were completed the war intervened, and little was done, but now, however, things are again in full swing.

The Empire House group is at present being balanced on the western side of Kingsway by the Ingersoll, Shell, and the British Thomson-Houston buildings, all by the same architects. They are also engaged upon Africa House, by far the largest block in the street, and which will occupy almost an entire island site at the northern end. Messrs. Metcalf and Greig were the architects for Kingsway Chambers and Imperial Buildings. Sir Frank Baines designed the original Public Trustee Buildings, while Queen's House was the work of Mr. M. E. Collins.

H. JOHNSON.

Victory House

This building was erected for the Public Trustee, but is temporarily occupied on some of the upper floors by the Shell Marketing Co., whose new premises, which the same architects are designing, are not yet completed. Considerable difficulties had to be overcome at the commencement owing to shortage of cranes for excavating, and difficulty in obtaining steel. Later on during the erection there was a temporary shortage of carpenters, which made it totally impossible to get the floors laid, and some of the floors are, in consequence, finished in cement instead of wood. The building is constructed of fire-resisting materials, and has a Portland stone front.

Asphalt has been freely used on the building, and the work has been carried out by Messrs. Thomas Faldo and Co., Ltd., of Kingsway, London, the whole of the

material being manufactured at their own works at Rotherhithe. Their work comprises horizontal and vertical damp courses, roofs, and the covering to cornices and the dormers.

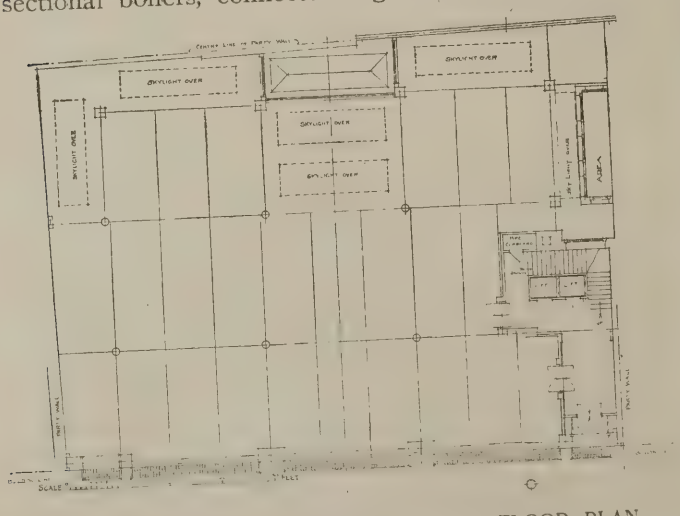
This is only one of the many buildings in Kingsway on which this firm have carried out the whole of the asphalt work.

The steel windows which are a feature of the front elevation of the building leave nothing to be desired either from the æsthetic point of view or that of practical utility, and have been designed to meet all modern requirements and conditions in an up-to-date commercial building. The arrangement of the ventilators is such that, in addition to being rain and dust proof, they ensure a system of natural ventilation. The windows, which are fixed to ornamental cast-iron surrounds, are so arranged as to be easily accessible for cleaning purposes from the interior of the building.

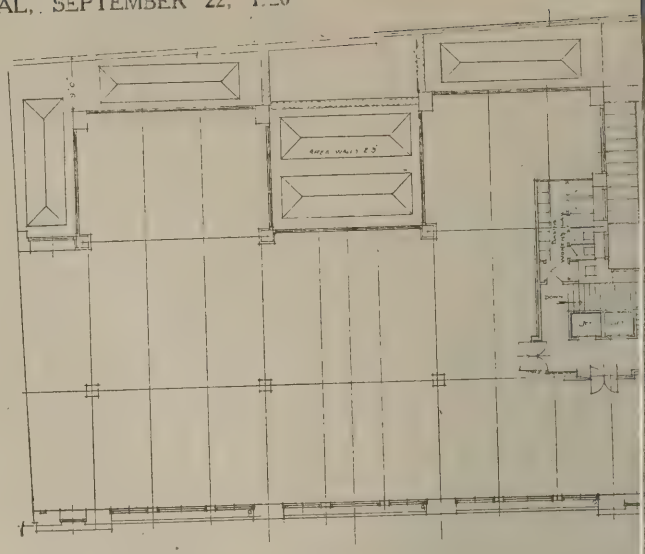
The rear portion of the building has been similarly treated with the exception of the cast-iron surrounds, and here again, thanks to the architects' foresight, the whole of the rooms are flooded with daylight, and dust and rain are excluded, no matter what the climatic conditions may be. The total superficial footage of windows was supplied by Messrs. Williams and Williams, of Kingsway, W.C.1.

The lift service, which is of such vital importance in a building of this description, has been given every consideration, and no effort has been spared to secure a most efficient installation. Messrs. Medway's Safety Lift Co., of Deptford, were entrusted with the work, and have fitted two high-speed electric passenger lifts, which serve from the basement to the seventh floor. A special method of control has been adopted to secure smooth starting and stopping, and to avoid that unpleasant sensation often met with in some high-speed lifts. These lifts are fitted with the firm's latest appliances to ensure safety and reliability, including safety locks and switches fitted to all landings and cage gates. Nowadays. anything in the nature of a lift accident can only occur as the result of gross carelessness, and, in the mechanism of the modern lift, even this contingency is met. For example, it is obvious that the installation here described is thoroughly "fool-proof." The modern passenger lift is indeed a marvel of safety, convenience, and comfort, and so replete is it with the means of securing these qualities that it may be assumed to have reached the zenith of perfection. And this climax has been reached because the lift is no longer a mere luxury, but a necessity for every tall building.

The building is heated by a gravity low-pressure hot-water apparatus, on the "dual drop" system, and no pumps or other mechanical contrivances are used to circulate the water through the apparatus. In the boiler-house, situated in the basement, are fixed two cast-iron sectional boilers, connected together with pipes and



VICTORY HOUSE, KINGSWAY: GROUND FLOOR PLAN.



VICTORY HOUSE, KINGSWAY: FIRST FLOOR PLAN.

valves in such a manner that either or both boilers ca used as required. From the boilers a 6 in. wrought s main is taken up and connected to a circulating t fixed in the tank-room on the roof. From this tar wrought-steel flow main is taken overhead on the ei floor, branching in directions required, and drop down to the lower floors, with outlets left, and con tion made to the flow inlets of the cast-iron radia From the return outlets of radiators connection is n to separate dropping mains, which are taken dow overhead in basement, and there connected to a wrou steel return main, which is connected to the boilers.

The principle of the system is an equal distributic heat throughout the apparatus, all hot water after ha passed through a radiator being returned direct to boilers, and every radiator receiving its due propo of heat.

Behind the radiators fresh air inlets are provided louvre registers arranged for the supply of fresh air t various rooms. The air is warmed in transit ove radiators and is discharged into the building at a able temperature. The amount of fresh air ca controlled by the operating gear fixed to the l registers, and in addition each radiator is under sep control by means of the regulating valves fixed on nection to same. The apparatus was erected by Berry and Sons, of Westminster, to the design o A. H. Barker, consulting engineer.

A great deal of credit is due to the contractors. M W. F. Blay, Ltd., and their foreman, Mr. Burgess all showed great enterprise and adaptability in d with the peculiar difficulties so common in preser building.

The other sub-contractors were as follows: Po stone, Messrs. G. E. Wallis and Sons, Ltd., Maid steelwork, Messrs. Dorman Long and Co., Ltd., minster; hollow brick floors, Messrs. Diespeker an Ltd., Holborn Viaduct, E.C.1; marble work, te pavings, and wall tiling, Messrs. Carter an (London), Ltd., 29, Albert Embankment, S. cast-iron work and fire-escape staircase, Messrs. V and Sons, Bow Bridge; lift enclosure, Messrs. H. (and Co., Bow Lane; lantern pavement lights an resisting glazing, Messrs. Luxfer Co., Ltd., Fin sanitary work and plumbing, Mr. H. S. Thorne, C well, S.E.; hardwood, Nettlefold and Sons, Ltd. Holborn, W.C.; doors, P. H. Barker and Sons, H Herts. and Putney.

Messrs. Trehearne and Norman, the architect already have many buildings to their credit in Kin are now engaged upon new premises for the Afric Eastern Trading Corporation—the largest buil the street, the Ingersoll Watch Co., and the Thomson-Houston Co., as well as several others

Current Architecture. 42.—Victory House, Kingsway, London

Trehearne and Norman, Architects

This type of frontage, with many but slight variations in the details, is now almost inevitably adopted for premises in which abundance of light is required; and the façade is usually, as in the present instance, passably elegant by reason of the logical disposition of the very simple elements of the composition. Here the decoration is almost entirely organic, and therefore entirely void of offence; the Order serving to divide the total height into agreeable proportions, and the columns comprising it being very pleasantly framed within borders that are precisely right in scale.

Germany and Post War Building

SINCE the signing of the Armistice, there have been two main difficulties in the way of resuming building acti-ies in Germany: the extraordinary rise prices and wages, which makes the ilding of houses impossible without ate-aid, and the considerable shortage building materials, especially bricks. l efforts to revive the manufacture of icks have been unsuccessful owing to the ortage of coal, which has to be reckoned th for several years to come. It is erefore essential to find building mate-ls requiring very little or no coal for ir manufacture. According to a trans-ion, which has been sent us by Mr. an H. Scott, of a report, of which the lowing is a summary, of Scheidt, the rman and Prussian State Com-ssioner for Housing, new methods have, in the past, to satisfy the following con-ions: (1) safe construction; (2) good at preservation; (3) economy; and (4) e from objections from a health point view.

Constructionally, the various methods building are tabulated as follows:—Wall construction, vertical load evenly ributed over full section of wall: (*a*) d wall: 1. wall rammed in situ; 2. of d blocks; 3. of hollow blocks; (*b*) ity wall: 1. channelled blocks; 2. wall n outer and inner plates having feners; 3. ribbed blocks.

I. Wall construction, with load con-trated on uprights (framework and ng): consisting of 1. timber frame k; 2. steel framework; and 3. rein-ced concrete framework.

Walls Rammed in Situ

Cob work or pisé, it is stated, can play a considerable part in the building of cottages, and it requires no coal at all. A recent test at Munich proved that the heat conductivity for rammed clay is the same as for burnt brick; K = 0.79 per cent; M = 100 per cent.* It was found that failures were due to inexperienced workmanship, when ramming the clay or putting on the rendering. The Council for Demobilisation for the District of Kassel permits the following building construction:—1. Air-dried (unburnt) brick, outer walls 18 in., division walls to carry floors and gable wall 12 in. thick, other walls, 6 in. 2. Pisé work, outer walls 20 in., inner walls 16 in. 3. Frame-work with built-in walls of air-dried brick.

Near Industrial Works for rammed slag concrete construction, the slag should be mixed with cement, 8 to 1, or 10 to 1, but must be free of phosphor and acid. The more porous it is, the better it has been found for heat preservation.

There have been few practical exper-iences of houses built in forms with thick liquid concrete, but it is assumed that this method can only compete when the forms can be re-used a great many times. It is pointed out that the danger of cracks, due to differences in temperature, must not be overlooked.

* The Technical College in Munich gives various results with regard to heat penetration:—The co-efficient "K" gives the number of heat-units passing through one metre square of wall in one hour at a difference of 1° in temperature. For a comparison the co-efficient "M" gives the ratio of loss of heat of the material to the loss of heat of 15 in. brickwall in per cent. It is to be noted that the influence of air penetration due to wind pressure has not been taken into account.

Solid Blocks

The same remarks apply for clay blocks as for pisé, but it is recommended that fibrous material and slags should be added. Under present-day conditions, it is advisable to use the so-called green bricks. These are formed and dried in kilns and are not burnt. Most of the kilns have a great number of these air-dried bricks for disposal, and these may be used for buildings without employing coal for burning. Out of 18,000 kilns in Germany, at present, only 300 are working. To manufacture these green bricks, it is permissible to add aggregate, which could not be done with burnt bricks. The latter have been found to have great strength and porosity.

Bricks of lime and sand are greatly used in East German districts. The bricks which are pressed in a hydraulic press and hardened under steam, have great strength, are weatherproof, clean in ap-pearance, and are used to advantage in internal walls. For exterior walls, an air space is advised, and a burnt brick facing. With regard to the heat penetra-tion co-efficient for a 15 in. wall in this material, K = 1.15 and the ratio of loss of heat to similar wall in burnt brick. M = 162 per cent. The great advantage of this material lies in its great economy in coal.

Schwemm blocks have for many years been used successfully in Western Ger-many, and they require very little coal.

VICTORY HOUSE, KINGSWAY: DETAIL OF ELEVATION AT UPPER FLOORS.
TREHEARNE AND NORMAN, ARCHITECTS.

They consist of volcanic pumice-stone, in addition to "trass," which is manufactured under very great pressure, and they form an excellent building material. The Minister of Public Works has given instructions that this method be applied as largely as possible, but this volcanic material can only be found in one part of Western Germany (in the occupied territory), therefore, there are transport and political difficulties.

In view of these difficulties, keen competition is going on to replace, as far as possible, the above material by an artificial block. It has been found that the blast-furnace slag when placed in water in a red-hot condition forms a similar substance, which is broken up, mixed with blast furnace cement, pressed into blocks, and dried under steam.

Blast furnace clinker blocks, 10 in. by 5 in. by 2½ in., have been used for houses, schools, town-halls, and hospitals in Saarbrucken, and test results give a compressive strength of 1,451 lbs. per square inch before fracture. The blocks (heat penetration for 15 in. wall, K = 0.59, M = 76 per cent.) are composed of granulated blast furnace slag with lime, mixed 6 to 1, pressed, and hardened under steam.

Hollow Blocks and Bricks

With regard to hollow blocks it is stated that the air spaces should be so arranged that the air from outside has to pass through several channels, and that hollow bricks, which require less coal for burning than solid bricks, possess generally great compressive resistance. Hollow bricks in standard sizes and double height, 5 in. by 6 in. by 10 in., with divisions, have been passed by the Superintendent of Police for Berlin for 1. Old buildings with two floors above cellar with small gable roof. 2. All other buildings as far as hollow blocks are permitted. 3. Weight (*a*) 1350 kilogram per cub. metre in lime mortar; (*b*) 1400 kilograms per cub. metre in cement mortar. Permissible stress for (*a*) 56 lb. per sq. in.; (*b*) 100 lb. per sq. in. The heat penetration for a 10 in. wall is as follows: K = 0.60, M = 77 per cent. In Bromberg, hollow rebated floor blocks have been used over timber beams for small dwellings, and have been found light in weight and heat-preserving. Slag concrete blocks, 21 in. by 13 in. by 4 in., with longitudinal channels have also been found suitable for various building constructions.

The assumption that the air in a cavity wall acts as a protection has been found to be not quite correct. In larger spaces, this air is not at rest. It sinks along the cool outer wall and rises on the warm inner wall, and thereby cools the inner wall. "The purpose of a cavity wall is only fulfilled by sub-dividing the space, or filling it with coarse non-conducting material. Many of these absorb water readily, therefore care must be taken to protect the outer wall so that no moisture enters. Weather and rain protection is obtained by facing the walls with wooden battens or slates, which have to be obtained locally, and by rendering with hydraulic lime. Porous walls act best against air penetration."

Filling in Material

In the following table, "A" co-efficient gives the capacity for conducting heat of various filling in materials for cavity walls, and serves to obtain from the following formula, the co-efficient "K" for heat penetration.

$$\frac{1}{K} = \frac{1}{a_1} + \frac{d_1}{A_1} + \frac{d_2}{A_2} + \cdots\cdots \frac{1}{a_2}$$

wherein "d" = the thickness of panel in centimetres.

Materials.	Lbs. per cub. ft. Weight.	A at 20 deg
1. Cork-stone	12—21	..... 0.040—0.050
2. Cork substitutes	12—27	..... 0.042—0.065
3. Peat plates	12—18	..... 0.048—0.060
4. Sawdust (dry) ...	lightly rammed	..... 0.055
5. Peat rubble (dry)	ditto	..... 0.070
6. Rhein Pumice-stone	—	..... 0.080—0.140
7. Artificial Pumice-stone—		
(a) fine grain.	23	..... 0.086
(b) coarse ,,	23	..... 0.120
8. Rhein Schwemm block	40	..... 0.130
9 Linoleum	74	..... 0.160
10 Asbestos slates...	112	..... 0.190

These figures are given by Professor Dr. Oscar Knoblauch, from his tests at the Technical College, Munich.

Cavity Walls, etc.

Hollow blocks consisting of 1½ block for the wall, with ½ block hollow, and binding blocks, the hollows being filled with heat preserving material, has been found of a stability sufficient for flat buildings. Heat penetration K = 0.89, M = 112 per cent. without filling. A system of hollow wall with upright hard burnt blocks, with transverse bond and hoop iron about 3 ft. apart, has been passed by the Police Superintendent of Berlin. (*a*) For two storey houses with small gable roofs, 16 in. thick; (*b*) for one floor, 10 in. thick. It is advisable to fill in the space to preserve the heat. Cement hollow blocks, with several sub-divisions, forming two or three air-cushions, have been applied in Scandinavia, and the heat preservation has been found to be good, owing to the sub-divisions. Cable blocks for placing underground wires, used as building blocks, has been passed by Police Superintendent, Berlin, for 6 in. wall of two floors, each 13 ft. high. To preserve the heat, however, a special facing is recommended.

As regards a cavity wall, with an inner and outer shell with cross stiffeners, attention is drawn to the fact that the floor load comes generally on to the inner shell, which tends to separate it from the outer one. This, it is stated, can be prevented by providing ties in the horizontal joints and continuous reinforced concrete beams as anchorage under the floor beams.

The old traditional timber framework, it is stated, is not now suitable for dwellings, as the walls are generally too thin, too expensive, and are generally condemned. Purely timber construction has, so far, not been frequently used in Germany, but in Scandinavia, it is very popular.

A method by which the frames are built of boards, with metal edges, and have a plate construction between, has been found suitable for small one-storey country cottages. Flat roofs are used with roof covering, consisting of wire mesh over round timbers, covered with a roof paste, and with a layer of 8 in. slag or peat, and on top a thin cement rendering to protect the outer surface against the wind. Dwellings also of timber framework, outside and inside, faced with slag concrete plates have been built in Charlottenburg. To protect the timber against rotting, the outer plates have to be made properly water-tight. Another method by which to economise timber, beams, uprights, and the roof, are composed of lattice work of battens screwed together, and the inside and outside faced with plates. They are said to be suitable exposed roof construction over halls, as a substitute for steel.

A steel framework has been foun good construction, especially when uprights are tied horizontally, but ov to shortage of steel, this method is advised. As regards a reinforced conc framework, it is pointed out that steel cement have to be used with g economy, therefore, for heat protec the reinforced concrete uprights shoul formed inside the hollows.

A number of heat protecting mate for facing, which have been manufact in large quantities for certain War poses, are mentioned, and being of no now, can be employed for their heat serving qualities. It is pointed out very often it pays to use a comparat expensive isolating material, which allow a reduction in the size of the wa

Conclusions

It has to be borne in mind tha cottage buildings, choice of bui method is less a question of strength a question of heat protection, therfo heat preservation, not only outer but also floors and roofs have to be sidered.

To economise in burnt bricks, it visable in the near future to build fo tions and cellars in poor concrete, for upper walls, the use of burnt should be reduced to corners, pillar outer facing. The use of bricks for walls should be altogether avoided.

In pisé work, the chimneys shou built in bricks or lime-sand bricks bonded with the walls.

The thickness of inner walls sho kept as small as possible.

To recapitulate, it is shown t spite of the shortage of coal, it is p to put up houses in considerable nu provided that the necessary tra facilities exist. At present, only bu of two to three floors could be encou as for more than this number, it is tial to use bricks.

Publications Receiv

"A History of Albany." By " Price 5s. 3d., post free. The Metropolitan Press, Ltd., 198, High London, W.1.

"Debentures: the Purposes the and How They are Issued." F bert W. Jordan. Ninth Edition 1s. 6d. net. Jordan and Sons, L and 117, Chancery Lane, W.C.2.

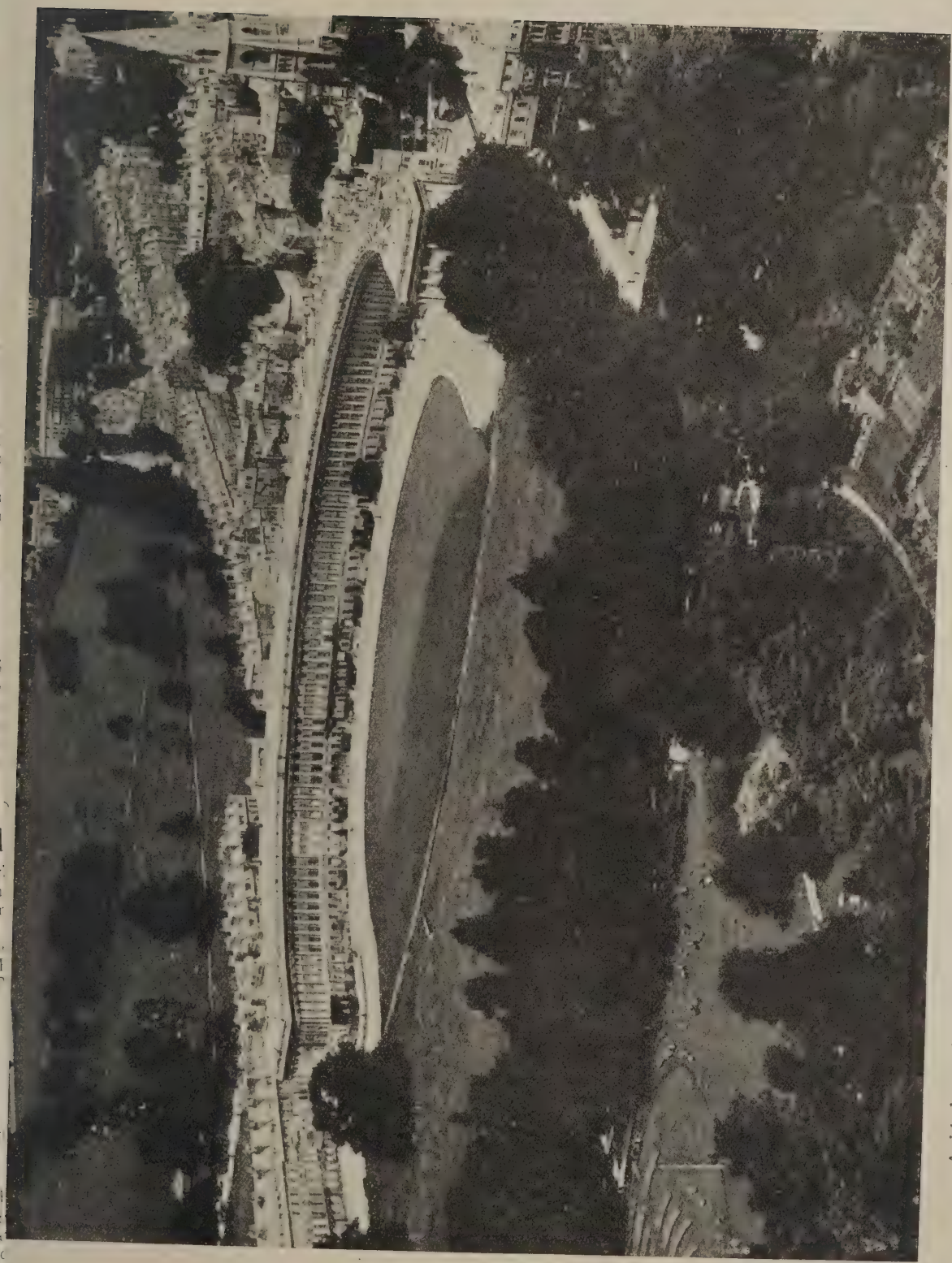
Coming Events

SEPTEMBER 23-27.

Town Planning Institute. Co at Bath.

TUESDAY, OCTOBER 19.

Society of Architects Lodge masons. There will be an em meeting on Tuesday, October 19 regular meeting (installation) on day, November 10, at the Holb taurant. The lodge is always pl see visiting "members" from lodges, and as some potential visit felt a diffidence in attending whe evening dress, it should be ma that they are equally welcome in dress.



Aerial photography picks out with emphasis the salient features of a town, and is a very candid revelation of the virtues or the vices of its town planning. Bath is here revealed as having but one orderly detail in its layout—its noble Crescent, behind which the white freestone buildings appear to be more of a confused jumble than in fact they are. What is brought out very clearly is the beautiful Somersetshire scenery in which the gem-like city is set.

Labour and Housing

AN agreement to accelerate work on housing schemes has been arrived at between the Government and the Building Resettlement Committee of the Joint Industrial Council for the Building Trade, and will now be submitted to the trade unions concerned.

The negotiations, of which the agreement is the outcome, date back to July, when the Government appointed a Cabinet Committee to consider the whole situation, and this Committee formulated proposals, the main elements of which were: (1) An increase in the numbers of skilled men in the trade by the grading up of unskilled men, the training of ex-service men, and the resumption of apprenticeships, extended to older men; (2) a system of payment by results; (3) a guarantee against loss of wages for time lost on housing schemes through stress of weather.

The Committee were authorised to negotiate on these lines with the Building Resettlement Committee of the Joint Industrial Council of the Building Trade. The Resettlement Committee showed the utmost readiness to co-operate with the Cabinet Committee in finding a solution, but they were unable for various reasons to accept the proposals as they stood. They, however, submitted suggestions on which the settlement which has been arrived at was based.

Supply of Skilled Labour

The situation, according to the official report, is that there is a work of essential public utility—the housing of the people—to be done, and that there is a reservoir of men available, with suitable training, to do it. The problem was to discover some means of augmenting the supply of skilled labour sufficiently to take good an abnormal shortage of houses in the shortest possible time, without either totally excluding or prejudicing the prospects of recruits drawn from the rising generation, and without so overstocking the market in the present emergency that when the emergency has been met the building trade will be menaced more than ever before by the spectre of unemployment. At the same time it has been necessary to aim at avoiding the infringement of trade union rules and customs, which, as the result of long experience, are held to be as vital to the true interests of the industry in times of stress under ordinary conditions. It has to be realised that the problem is one affecting the building trade as a whole—the housing schemes are only part of the building trade in the country.

The essential point of the scheme which the Building Resettlement Committee have agreed with the Government to put before the unions is that apprenticeship shall recommence generally, and that in particular there shall be gradual augmentation of the supply of skilled labour by the admission of adult apprentices up to the age of twenty-six to serve a three years' apprenticeship. The effect will be to draw into the trade, in addition to young recruits, a proportion of men who, by reason of their mature age, can, by intensive training, be made capable of relieving the abnormal shortage caused by the war. The number of apprentices to be admitted will be regulated by negotiations between the employers and the unions, according to the special requirements of the various trades. In the case of all men over twenty-three years of age and of ex-service men below that age, who enter as apprentices, it has been possible to propose pay on a graduated scale high enough to attract good men without giving them an unfair advantage over younger men serving on ordinary indentures. In this way it is hoped gradually to secure a very material augmentation of the skilled sections of the building trade.

In the course of the negotiations the question of providing as part of a settlement some security against loss of wages by stress of weather was fully considered. It was agreed that this very desirable object would be best left to be secured by arrangement between employers and operatives, the Government being consulted in so far as the finance of the housing schemes may be affected by any arrangements made.

It will be noted that agreement on these and other points has been reached, and that the Resettlement Committee have undertaken to bring the proposals of the Government before the unions at the earliest possible moment, and to urge the executives of the unions to lose no time in getting a decision from their constituents. The unions will be asked not only to put the Government scheme before their constituents, but also to assist the distribution of labour where it is needed by enrolling the names of men who are willing to devote themselves to housing work.

The proposals of the Resettlement Committee, upon which agreement has been reached, are as follows:

1. The Resettlement Committee have examined and discussed the further proposals of the Government with regard to the acceleration of the erection of houses.

2. The Committee recognise that the views of the Government, as expressed in these proposals, do not indicate any insuperable obstacles to an understanding being arrived at, and agree that the revised scheme has much in common with their own views. They are not, however, able to accept in full the detailed suggestions made by the Government as to how these principles may best be applied, and further suggestions as to procedure are accordingly set forth below, in which the basic principles are generally maintained.

Admission of Apprentices

3. Dealing with the Government's scheme as detailed in their memorandum, the Committee agree that certain trades in the industry require immediate augmentation, but they feel that the suggestion contained in paragraph 1a, to the effect that the number of apprentices to be allowed during the first year shall be double the number provided for by the existing regulations, is neither practicable nor consistent. Due regard should be given to the variations in the regulations governing the admission of apprentices to the different trades, and to the actual requirements of each for an increased supply of labour. For instance, in the bricklaying trade the number of apprentices who may be engaged is not now specified, there being no national rule, and, further, the number actually in being at the present time is extremely low. In the case of this particular trade, therefore, it will readily be appreciated that facilities already exist for a considerable increase in the number of apprentices, and the Committee feel that such increase could better be effected by means of negotiations between the employers and operatives than by any hard and fast proportion of apprentices to skilled men, which would in all probability cause consternation and alarm among the rank and file if quoted in figures, and lead to passive if not active opposition. In the opinion of the Committee it is essential that the scheme should preserve sufficient elasticity for regulating the admission of apprentices in the various trades according to their special requirements.

4. As regards the period of apprenticeship to be served, the Building Resettlement Committee prefer their previous suggestion that this should depend upon the age of the apprentice, since younger men generally require a longer period in which to acquire their experience than would be the case with those of greater maturity, and difficulties would arise if apprentices brought in for the first time at the age of nineteen received higher wages than juvenile apprentices who had been already two or three years in the trade.

Training of Ex-Service Men

The Committee are, however, prepared to recommend that ex-service men should be accorded special treatment in this respect, and should all be admitted to the elder category, thus obtaining the benefits of a shorter apprenticeship, and a higher wage at its commencement.

5. The question of payment presents special difficulties, as an inadequate rate would fail to attract any considerable number of men, and a wage which would act as sufficient inducement might prove to be unremunerative and uneconomic to the industry, and consequently would not secure that measure of support that is desired from the employers.

6. The Committee have already suggested to the Cabinet Committee that employers should be enabled to pay such a rate by means of the assistance of a State subsidy, but were definitely informed upon that occasion that no such suggestion would be entertained.

7. They therefore believe it is essential, in order to meet the Government's proposal to start adult apprentices at 50 per cent. of the standard rate, that employers should be given some guarantee in regard to continuity of contracts over the period covered by the indentures of such apprentices as may be engaged under the scheme; as otherwise the Committee fear that employers generally would be most unwilling to commit themselves to engagements of this nature, owing to the precarious and uncertain character of housing work in particular and the industry in general. They also recommend that the graduated six monthly increases in the case of an adult apprentice over twenty-three years of age, engaged on a three years' indenture, ranging from 50 per cent. to 90 per cent., should be as follows: 50 per cent., 55 per cent., 60 per cent., 70 per cent., 80 per cent., 90 per cent., and that the younger men, i.e., those between the ages of nineteen and twenty-three, other than ex-service men, should be paid in accordance with their previous recommendations.

8. Some provision for transference of adult apprentices where the exigencies of

a particular employer's business so necessitated would tend to popularise the scheme with employers.

9. They also recommend that the Joint Committee who would undertake the arrangements of trade tests and subsequent review of wages, might be co-ordinated with the Committees already in existence in connection with the training of disabled ex-service men.

10. While preference should be given to ex-service men, the Committee think that for practical purposes it would not be possible to make this a hard and fast condition, since it will be obvious that if trainees for the skilled trades can be drawn from the ranks of the unskilled in those trades, a greater degree of immediate efficiency may be expected than by employing men entirely unconnected with the building trade, merely because they are ex-service men. It is certain that a very large percentage of men of the ages referred to would in fact be men who had served in the Army.

11. The principle enunciated with regard to the effect that housing schemes should have the first call on labour, is one in which the Committee can readily acquiesce, and to that end they are convinced that the distribution of contracts is a necessary factor in order that the greatest possible proportion of existing building labour shall be available for the purpose. The full application of this principle would result in housing work obtaining the first call upon labour, and would, in effect, automatically create a form of prohibition.

12. The Committee recommend that the proposed Committee to investigate the present high cost of building should contain accountants and quantity surveyors, in addition to representatives of employers and operatives, in order to ensure perfect impartiality and thoroughness of investigation.

13. The Government's proposals for increasing output have hitherto been practically confined to the adoption of a system of payment by results, and it is on this principle that the Committee have been most at variance with the Government. To such a system there is, on the part of the trade unions, the most strenuous opposition, on the ground that it leads to scamping of work and degradation of the industry, with a consequential depressing influence on the status of the workmen, and, owing perhaps to their past experiences in regard to unemployment, the operatives are not in a mood to discuss the merits of the proposition.

14. The Committee submit for the serious consideration of the Government that an increased output per man would directly result from a suitable augmentation of the personnel of the trade, and by rearrangement and improvement of existing working conditions. It is agreed by practical men that a better spirit prevails and greater output is produced on jobs on which a full complement of workmen is employed, than in the case of those where the number of employees is totally inadequate to cope properly with the work in hand. It follows, therefore, that if an increased amount of labour can be diverted to housing schemes the morale of the individual workmen will be so improved by the assistance which each will receive that their output will automatically increase. Similarly, the concession of some payment in respect of time lost through stress of weather would in itself play a considerable part in the augmentation of certain sections of labour, by attracting back to the industry a large number of men who have migrated to other occupations, and would thus, for the reasons previously given, still further increase the productive capacity of the trade.

15. The Committee are not desirous of conducting these negotiations in a spirit of bargaining, nor are they endeavouring to obtain concessions for the industry without themselves giving up anything in return, but they are firmly convinced that the augmentation of labour which would result from the better and more equitable distribution of contracts, the application of the apprenticeship scheme, and some payment for time lost through stress of weather, would together result not only in the augmentation of the trade, but in a large proportional increase in its output.

16. They recommend that the expenses in connection with the payment referred to should be made a charge upon the housing scheme, but recognise that whatever form this concession takes it would of necessity not be confined to housing schemes only, but would, by force of circumstances, become applicable to the industry in general.

17. Should some portion of the time lost by bad weather, etc., be guaranteed, it should be so arranged as to details, cost, application, etc., by the employers in consultation with the operatives, and subject to approval by the Ministry of Health, in so far as the arrangement might affect the cost of assisted housing schemes.

18. The Building Resettlement Committee confirm their opinion as to the necessity of speedy legislation, to prevent the objectionable practices now steadily growing of offering special inducements in order to attract labour to the detriment of progress with housing work, thereby producing general dislocation in the industry.

Should the scheme, after a fair trial, prove to be inadequate in producing the necessary results, it is understood that the Cabinet Committee would be at liberty to reopen the question in connection with the Resettlement Committee, with a view to formulating fresh proposals.

The arrangements for dealing with loss of wages through stress of weather will be settled between employers and operatives, subject to approval of the Ministry of Health in so far as the finance of housing schemes may be affected.

New London Bank

The new building for the Commercial Bank of London, Ltd., at 37-41, Gracechurch Street, E.C., occupies one of the most commanding sites in the City, being in that part of Gracechurch Street, between Lombard Street and King William Street, which faces the open space at its junction with Eastcheap.

The architect is Mr. Gould Wills, F.R.I.B.A., the architects for the fittings are Messrs. Joseph, and the builders are Messrs. Howell J. Williams, Ltd.

The frontage of the building to Gracechurch Street measures 187 ft., and the depth from Gracechurch Street to the door in Church Court—a short cut from Lombard Street—is 144 ft. The area of the site is 9,500 square feet. The building rises to a height of 130 ft., this measurement being from the spacious basement through the eleven floors to the towers.

The masonry of the front is of Portland stone, with polished Aberdeen granite. There are four passenger lifts to the building, one provided with a high-speed ge and there is also a lift for the conveyan of books and documents to and from t strong rooms in the basement.

The ground floor is occupied by t banking hall, with a share transfer depa ment. The scheme of decoration co prises panelling and counters and desks walnut, ornamented in Greek design, w metal work in bronze. The hall contai in the centre of its ceiling an open ar covered, beyond the mezzanine floor, by steel and glazed lantern light, screened a ceiling light. Thus, a gallery in t mezzanine floor commands a view of t banking hall below. The lower grour floor is effectively lighted by paveme and stall-board lights. Below this the basement, containing strong roon completely isolated, and lighting and c tral heating apparatus.

The mezzanine floor, with its wal panelling and bronze metal work, conta the directors' rooms, the furniture and corations being early Georgian. T board-room is panelled in oak, the decc tion and furniture being of the Stu period.

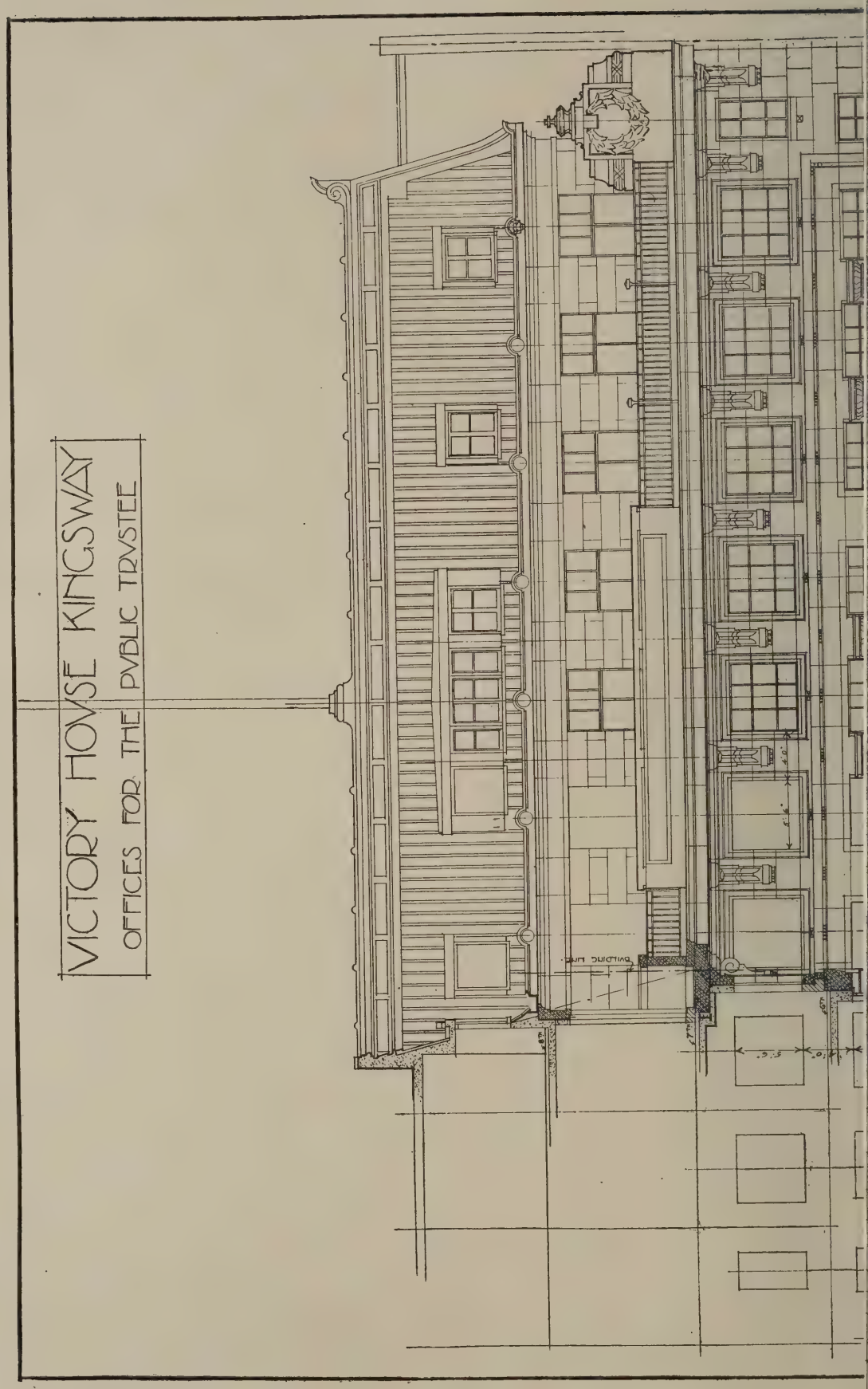
Bristol Housing Schen

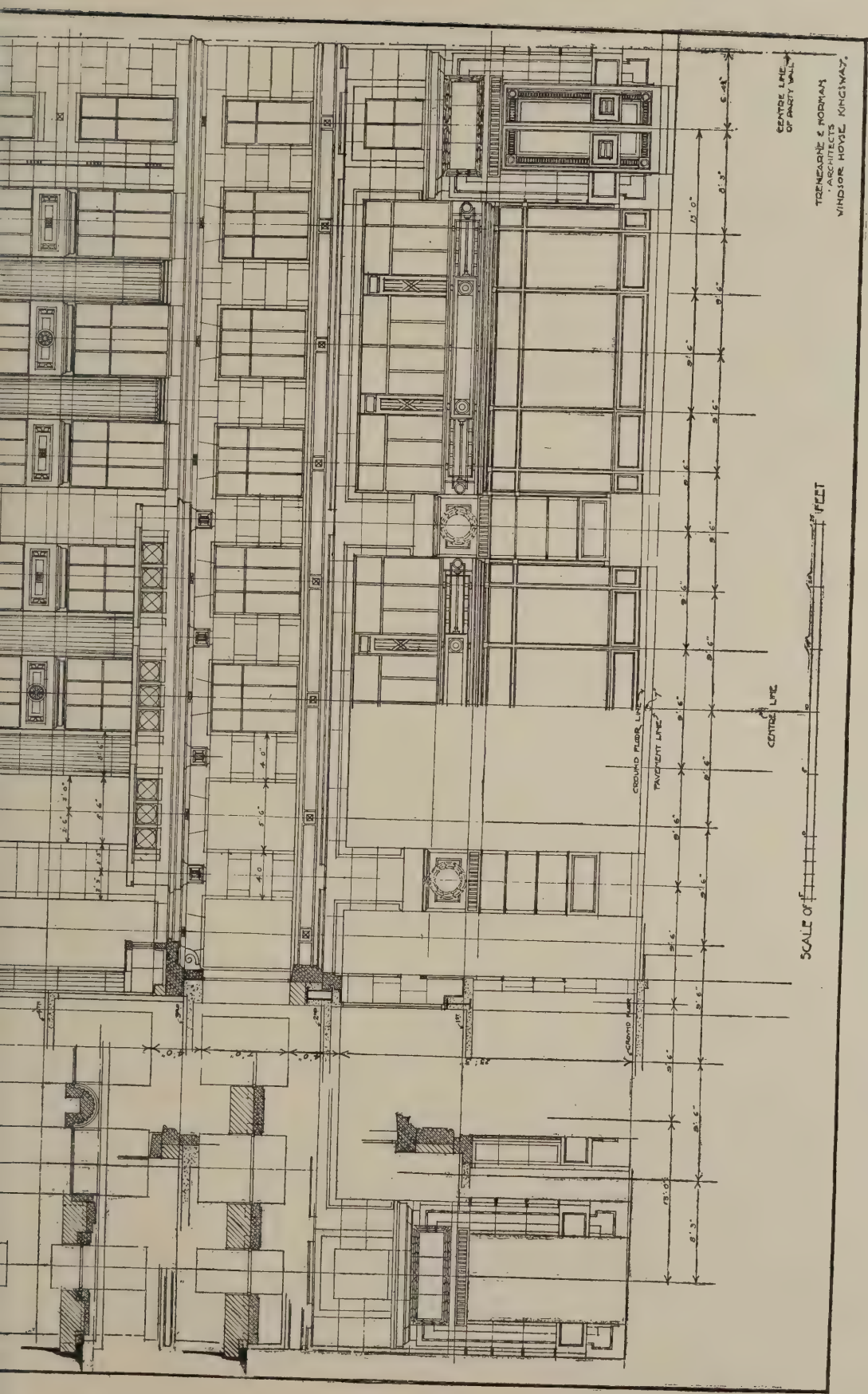
On page 327 we illustrate some typ houses which are being erected at Bri in connection with the scheme of Corporation for the provision of 5, houses on a number of beautiful vill suburbs on the extreme boundaries of city. Eight sites, a total of rather m than 700 acres, have been acquired, the average cost of the land has b about £220 per acre, the lowest price being £100 per acre, and the highest p £450 per acre. The lay-outs of the si some of which, as well as some of other types of house, were illustrated recent issue, have been prepared by C. F. W. Dening, F.R.I.B.A., actin co-operation with the city engineer, L. S. Mackenzie. The houses are plar on an average of ten to the acre, house having its own garden planted fruit trees. The main roads or ave will be planted with trees.

In order to obtain the best architect talent available, the committee, during period in which the lay-outs were b prepared, instituted a competition designs for houses, which was thr open to the whole of the architects in West of England, premiums being off to the value of £1,200. On the advic Sir Aston Webb, P.R.A., Mr. E Newton, R.A., was appointed assess the plans, he acting with Mr. C. F. Dening in this matter, and, as a resu the competition, the following eight a tects were elected to form a board of a tects to carry out the housing sch Messrs. C. A. Farey, A.R.I.B.A., M man and Greenen, S. S. Reay, F.R.I. B. Wakefield, Lic.R.I.B.A., H. H man, Lic.R.I.B.A., and Miss Bla Messrs. Arnold Mitchell, F.R.I.B.A., Bo'terill, A.R.I.B.A., and W. H. Wat F.R.I.B.A. The parlour type pro accommodation for a lobby, open k parlour, living room, scullery, three rooms, bathroom and w.c., and linen, and coal storage. With the e tion of the parlour and the open to the coals, much the same accomm tion is provided in the living-room Both types are compactly and admi planned. A number of the houses are erected by direct labour under the c of the city engineer.

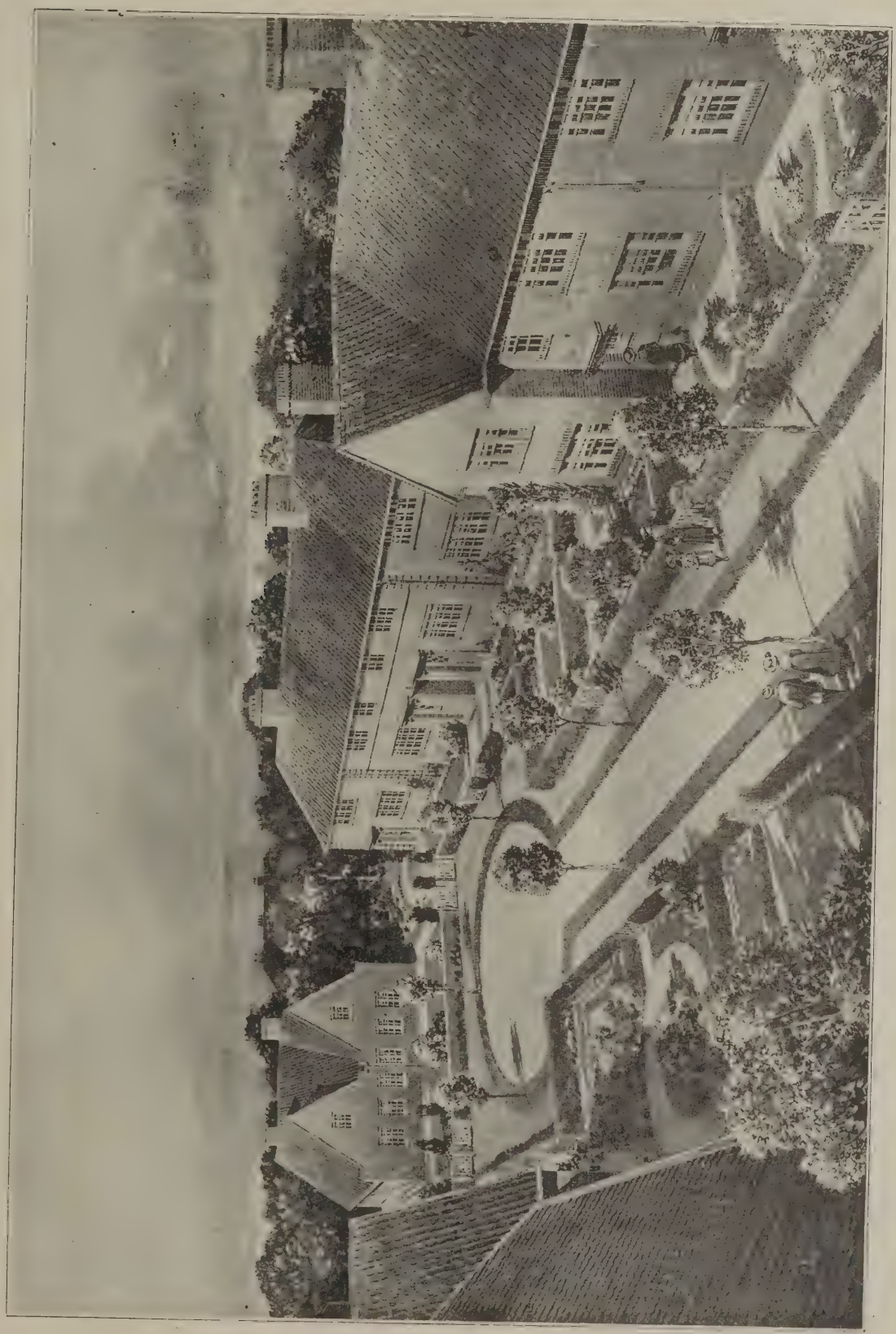
Architects' Working Drawings. 18.—Victory House, Kingsway, London

Trehearne and Norman, Architects





This working drawing shows even more clearly than the photographic view the excellence of the proportions observed in composing the façade. The various compartments into which the front is divided are spaced quite rhythmically, the total effect being a very harmonious elevation, in which a fair degree of elegance is achieved without the aid of meretricious ornament.



BRISTOL HOUSING SCHEME: TYPICAL ELEVATIONS.

The Corporation is now erecting no fewer than 5,000 houses in a number of village suburbs on the boundaries of the City.

(*See also page* 322.)

Glasgow Housing Exhibition

THE success of the Exhibition dealing with building and furnishing problems last year in the Kelvin Hall has encouraged the Glasgow Corporation to organise another Exhibition on similar lines, which has just been opened. The area of the Hall has been increased by the inclusion of the old skating rink buildings, so that practically the total area of ground available has been covered. This renders the Exhibition more compact than last year, when the overflow exhibits in the old skating rink had to be reached by means of two covered gangways. It is now claimed that the area is larger than that of Olympia in London. But be that as it may, the general effect is very good, and many of the exhibits are exceedingly interesting, and should be most informative to the general public. Of course, a number of the exhibits are only indirectly interesting to the architect, such, for example, as those stands showing musical instruments and patent foods; but, apart from these, there is much for the architect and contractor who are interested in new materials and novelties.

The Corporation again lead the way by showing a full-size model timber-framed house of the bungalow type at present being erected by them. It contains living room, 14 ft. by 13 ft.; bedrooms, 13 ft. by 12 ft., and 12 ft. by 9 ft.; also bathroom, and scullery or kitchenette fitted with sink, wash-tub, gas cooker, gas boiler, coal bunker, and food cupboard.

The other model is a four-apartment house, part of a two-storey block of flats containing four houses. This type is in course of erection at Greenhead, Govan. There are no ranges provided in the house, the living room being fitted with an interior grate, from which the hot-water supply for both bathroom and scullery is obtained. These blocks are constructed of brick, partly finished externally with terra cotta and partly rough cast, and have slated roofs. Each house has its own main entrance. This arrangement, a compromise between the cottage and the tenement, is perhaps more applicable to conditions in and near a large city like Glasgow.

In each of these exhibits every simple contrivance for easing the burden of the busy housewife and saving labour is shown. It is essential for the solution of the problem that these should be simple and comparatively inexpensive, otherwise they are really "outside the picture," as far as this size of house is concerned.

In addition to the foregoing, the Corporation Gas Department at their stand give a practical demonstration of the "all gas home," including even refuse destruction and the supply of hot water throughout the house in large or small quantities at will. The display includes fires, domestic bake-plates, and the stand is lit by incandescent gas controlled by pneumatic switches.

Another of their stands shows the possibilities not only of lighting by electricity, but of heating, cooking, and ventilating.

A continuation of the competitions of last year has resulted in many exhibits of models of houses, furniture, and appliances for the home. These are bound to be both stimulating and educative to artisans.

In opening the Exhibition on Wednesday last week, the Lord Provost referred to housing problems and the general position of housing in the city to-day. He spoke especially of artisan dwellings, of which he said 132 were occupied, while 250 would be completed within the next few months. In addition, there were 1,533 houses in various stages of construction and 2,100 scheduled and only awaiting approval to get begun.

Ex-Baillie Morton, chairman of the Corporation Housing Committee, in proposing a vote of thanks to the Exhibition Committee, said that the Corporation had that day accepted contracts for 1,505 new houses at a cost of nearly £2,000,000. Three hundred of these were to be proceeded with at once, and a further three hundred every six months. Appended are particulars of some of the exhibits of special interest to architects. Notices of other particularly interesting stands were published in our last issue.

Walls and Floors

Messrs. R. H. Kirk and Co., Collingwood House, St. Peters, Newcastle-on-Tyne, show the standard patent kirk block maker, for manufacturing artificial stone in endless variety up to 5 ft. long. It can make all artificial stone required in the ordinary building, from the foundation to the chimney cornice, including the window heads, sills, steps, coping, cornice, lintels, jambs, mantels, single and double and plain and rock faced blocks, etc. The No. 2 special block maker, similar in all respects to the standard machine, has a larger moulding capacity; it can produce 5 cubic feet of artificial stone per operation: time for one operation—approximately five minutes. In the patent double motion concrete mixer, for hand or power, the mixing ploughs revolving in the opposite direction, turn the aggregate to be mixed over in front of the ploughs coming in the opposite direction.

"Thermos" Flooring Co., Ltd., 85, North Oswald Street, Glasgow, show "Thermos" (Magnesite) seamless flo ing, and "Thermos" "C" (Non-Ma nesite) seamless flooring, suitable for t flooring, walls, and stairs in all kinds public buildings, hotels, offices, etc.

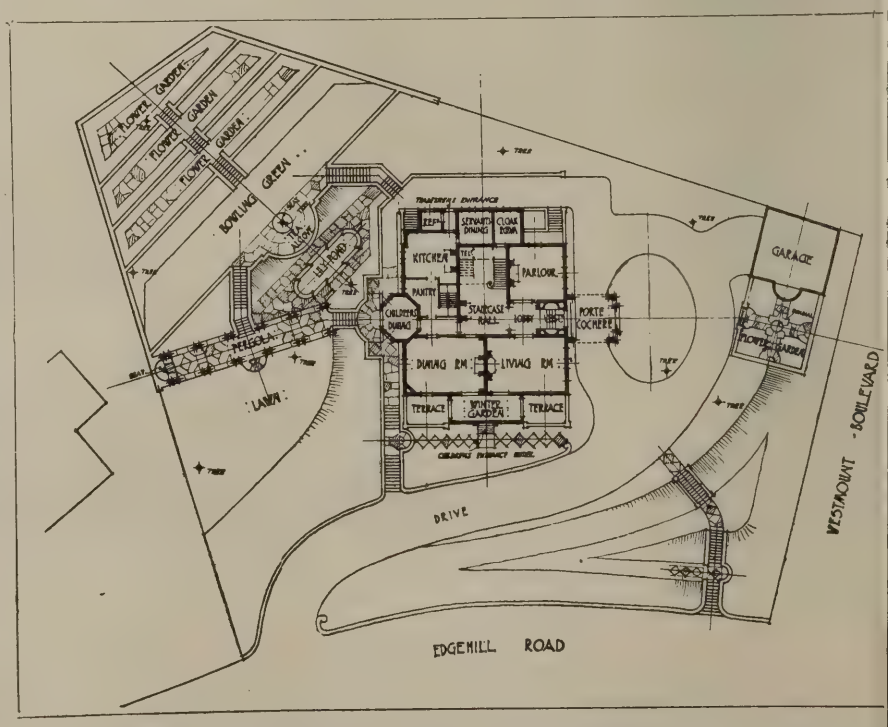
Heating and Sanitary

Messrs. William Macleod and Co., 60-62-64, Robertson Street, Glasgow, w are sole agents in Scotland for Natio Radiator Company, Ltd. (Hull), Dunh Heating Service (Toronto, Canada), sh the Dunham low-pressure steam syst for public buildings, factories, offices, ha churches, garages.

The Lawson Manufacturing Compa 323, Caledonian Road, King's Cross, L don, N.1, show Lawson odourless heaters. The gas is consumed at h temperature inside a red hot combust chamber. The flame is confined. tips are raised, affording a full free ci lation of air around the jets. A second air supply, from a slot under the length of the burner, assures a comp gas-and-oxygen mixture. It is clai that every particle of gas that it is poss to consume under the most perfect met known to science is consumed in the L son.

The "Valor-Perfection" oil cookers heaters are on view at the stand of Anglo-American Oil Company, Ltd., 118, Queen Street, Glasgow; also the v known medicinal product "Nujol" ar household commodity Parowax. A va of interesting literature is also availabl

Messrs. James Y. Millar and Co., Robertson Street, Glasgow, are show their adaptable one-unit fire. The sp features claimed for the "Jaymil" are its extremely low consumption of tric energy, being only one unit per h with the maximum of heat. It quires no expensive wiring—an ordi wall plug fitted to the lighting set i that is necessary. The fire can be to boil a kettle or as a grill, and b



HOUSE AT MONTREAL: PLAN OF GROUND-FLOOR AND GARDEN.

Modern Domestic Architecture. 17.—House at Montreal

Septimus Warwick, F.R.I B.A., Architect

Owing to the varying levels, the site on which this house has been built presented considerable difficulties, and the case was complicated by the position of some fine trees, which had to be retained. Externally the walls are faced with specially made dark-red Roman bricks, 12 in. by 1½ in., with ½ in. white mortar joints raked out three-eights of an inch. A line of headers is introduced every sixth course, carrying the line of the rustication of the angle-quoins round the building. The dressings are of grey canyon stone, and the roofs are covered with rough green slates laid in graduating courses.

only 10 lbs. in weight can easily be moved about from room to room to suit convenience. It is claimed to be a most serviceable fire, and, with its aluminium body and electro-plated fittings, to make an attractive ornament as well. Those with electric light at present in their homes should not miss seeing this exhibit.

Messrs. Tuke and Bell, Ltd., 27, Lincoln's Inn Fields, London, W.C.2, show a patent semi-septic sewage installation of a size suitable for a house for ten persons, comprising semi-septic tank (top section only shown), with cover, inlet and outlet slides, baffle, and outlet spout; Aerobic filter, with galvanised alternating tipper on brass bearings in galvanised iron container, having coated cast-iron chute outlet, and coated cast-iron serrated edged distributing troughs; and patent grip manhole cover, with concentric rings forming annular spaces, in which the road metal is held. These concentric rings reinforce the road metal around the cover, and provide an inclined plane if and when the road metal does wear.

Miscellaneous

The North of England School Furnishing Co., Ltd., Darlington, show their "Utod" patent door for houses, hospitals, offices, etc. "Utod" patent window for schools (approved by the English and Scottish Boards of Education), and other school furniture. The "Utod" door, which has not before been seen in the North, consists of two thin faces of three-ply wood built on a light core of wood laths. The door may be given the appearance of panels, or be left with perfectly plain faces, or it may have the most intricate decoration.

The exhibit of Messrs. Pinchin, Johnson and Co., Ltd., General Buildings, Aldwych, London, W.C.2, forms a striking illustration of the actual results to be obtained with specialities for the decorative trade manufactured by the associated houses of Pinchin, Johnson and Co., Ltd., and Wilkinson, Heywood and Clark, Ltd. An extensive range of specimens showing the choice protective finishes of Minerva paint, Satinette enamel, Deydol distemper, Hygeia flat finish, Veritone scumble stain, housing paint, and kindred specialities, is displayed in a practical manner for critical inspection, and a visit to this stand will be well worth while.

Messrs. Simplex Conduits, Garrison Lane, Birmingham (Glasgow branch, 72a, Waterloo Street), show electric irons, fires, kettles, vacuum cleaners, and other domestic electrical appliances.

McCreath, Taylor and Co., 179, Hope Street, Glasgow, exhibit Meldrum combustion appliances, among which are a refuse destructor, by which the refuse can be destroyed as it accumulates every day, and not left to get foul and become a nuisance. The sizes range from a capacity of 25 lb. per hour up to 15 cwt. or more. They are entirely self-contained and need but little foundation, and where there is no suitable existing chimney, a steel stack is used. The combustion is very complete, and there is an entire absence of any noxious fumes or smell, and the principle on which the Meldrum furnace works is that of steam-jet forced draught.

WAR MEMORIAL AT EUSTON. R. WYNN OWEN, A.R.I.B.A., ARCHITECT.

Competitions Open

Wakefield.

Cenotaph to the memory of the Fallen. Apply Town Clerk.

Lille.

Extending and beautifying the city. Entrance fee, 300 francs. Available for premiums, 128,000 francs. Apply the Mayor. Competition closes October.

Architectural Scholarship.

The Architectural Scholarship, 1920, of the value of £10, is offered for measured drawings, and the competition is confined to Licentiates and Students of the Society who have paid their fees for the current year. The assessors are Messrs. Sir Charles T. Ruthen, O.B.E., Percy B. Tubbs, and Professor Adams. Candidates are required to submit at least three and not more than four sheets of measured drawings and details, of some building of historic interest. The drawings are to be prepared between November 1, 1919, and September 30, 1920, and must be endorsed, "The Society of Architects' Architectural Scholarship, 1920," and delivered not later than 6 p.m., on October 1, 1920, at the Society's offices, 28, Bedford Square, W.C.1. The scholarship will be disbursed by the Council on behalf of the holder, subject to their approval of the manner in which the candidate proposes to utilise the scholarship, or alternatively to the candidate agreeing to such scheme as the Council may decide upon.

War Memorial at Euston

The memorial illustrated will stand in the centre of the approach road to Euston Station, and will be erected mainly by the subscriptions of London and North-Western railwaymen. The scheme entails the widening of the roadway round the monument, which consists of a Portland stone obelisk and pedestal on a granite base, with circular granite steps around the foot. Bronze figures, representing "The Navy," "Infantry," "Artillery," and "Air Force," occupy the four corners of the pedestal at the base of the obelisk. The diameter of the steps at the base is thirty feet and the height of the monument forty-five feet. The top of the obelisk is enriched by four Roman crosses in relief, with bronze wreaths encircling their feet to indicate the heroism and sacrifice of the dead in the upholding of Christian principles, while the pose of the figures—"resting on their arms reversed"—maintains the character of the monument as a memorial to the fallen. The words "In memory of our Glorious Dead" are to be incised in large Roman letters on one face of the obelisk, and below on the pedestal an inscription stating by whom the monument was erected, and the number (3,719) of London and North-Western railwaymen who fell in the war. The memorial has been designed by Mr. R. Wynn Owen, A.R.I.B.A., architect, of the Engineers' Department, Euston.

Askern Garden City

The new village at Askern, which has been opened by Dr. Addison, Minister of Health, and which has been built by the Askern Garden City Association, is pleasantly situated about seven miles north of Doncaster and nine miles south of Pontefract, is within two miles of the Great North-road, and the whole of the surrounding country is agricultural and well-wooded. A considerable number of houses were built before the War, but even so, the accommodation was totally inadequate for the increased population. Immediately the Government made known its scheme for the provision of houses in 1919 the Askern Garden City Association was formed, and is claimed to be the first public utility society registered under the new Regulations for the provision of houses. In spite of all difficulties with regard to labour and supply of materials, fifty-six houses had been erected, at the end of June, since June of last year, most of which are now tenanted. The houses are of a type approved by the Government and contain three bedrooms, living room, scullery, bath-room (hot and cold water), coalhouse, and W.C., and are fitted with electric light.

The present complete scheme comprises 312 houses, of which the fifty-six houses now completed forms the first section. The second section of the scheme, comprising sixty-four houses, has been commenced, and should be completed by the end of this year. The houses are set on garden city lines, mainly in blocks of four, each house being accessible by a back entrance as well as the front, and average rather less than twelve houses to the acre. Each house has a good large kitchen garden at the back, and being well set back from the road, a spacious front lawn is afforded, each being finished off with asphalt pathways, gates and fencing. On the initiative of the Colliery Company during the War, and the support of the Askern Parish Council, a very large proportion of the population are provided with an allotment garden, for which an acknowledgment rent only is paid each year.

The complete scheme embraces an Institute, where indoor recreations and reading-rooms will be provided, and the Wesleyan Reform Union have already erected a neat temporary Church near the property. Open spaces for the children have not been overlooked. All the houses are being erected on sloping ground, commanding a pleasant view of green fields and woodland, and although the Colliery is within a few minutes' walk of the site, nothing can be seen of it—in fact, apart from meeting the colliers going to and from the colliery when changing shifts, there is nothing in the new or old village to indicate the close proximity of a colliery or any other industry. Although so much has been accomplished the developments anticipated at Askern will necessitate a future population of something like 10,000, and a considerable number of houses in addition to those now proposed will be necessary.

There are three types of houses included in the Askern scheme, the smallest type being those erected and described above. The other types are: (1) sitting-room, living-room, scullery and bathroom, with three bedrooms. (2) A number of semi-detached houses with similar accommodation to the above. The village already possesses two temporary working men's clubs. There are also football clubs, a bowling club, and a cricket club. The financial arrangements for the scheme are those prescribed by the Government, by which the authorities advance 75 per cent. of the cost of land and completed work on loan over a term of years at current rates of interest, the remaining 25 per cent. of the capital being provided by the Association. The contractor is Mr. W. D. Leadley, of Askern, and the architect, Mr. G. E. Withers, F.R.I.B.A.

Weekly Housing Report

New housing schemes submitted to the Ministry during the week ended September 11 numbered 45, bringing the total number of schemes submitted to 11,062, comprising about 74,000 acres. The schemes approved now number 7,973, and comprise about 54,000 acres. Sixty-eight lay-out schemes were submitted and 58 approved during the week, bringing the total number of lay-outs submitted to 6,046 and the number approved to 5,407. House plans representing 2,104 houses were submitted, and plans for 1,867 houses approved. The total number of houses represented in all the plans now submitted is 256,383, and in the plans approved 240,251.

During the week tenders were submitted for 1,831 houses. Tenders for 1,902 were approved, bringing the total number of houses in tenders submitted to 157,912, and in tenders approved to 144,154. Contracts have been signed for 93,954 houses. Up to September 1, 1920, 101,958 houses were included in signed contracts; 35,357 houses had been commenced, but not completed; 5,585 houses had been completed, including 2,094 which were completed with the exception of painting. Up to September 10, 1920, plans had been approved for the erection by private builders of 19,200 houses. The total grant payable on completion of these houses will be approximately £4,648,000. Payment of grants amounting to £279,013 had been made in respect of 1,325 completed houses.

Enquiries Answered

State-Aided Housing.

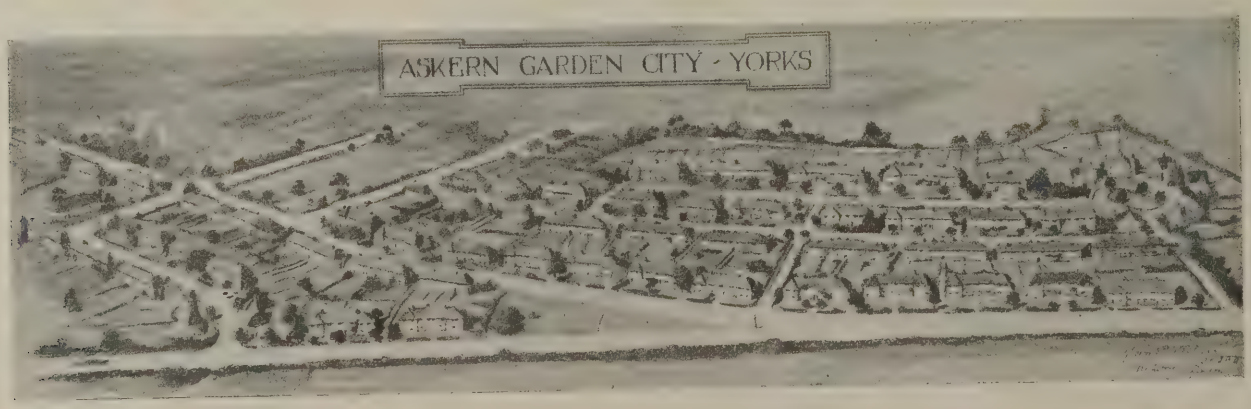
E. C. B., London, writes: "Can you please inform me in what particular publication of the Ministry of Health I can get particulars of their 'B.3' Standard of Acommodation?"

—A manual on the preparation of State-aided housing schemes gives particulars. Class B. means a parlour house, and B. means a parlour house with three bedrooms. The Ministry book, "Type plans and Elevations of Houses designed by the Ministry of Health in connection with State-aided Housing Schemes" illustrates some such houses. The manuals may be obtained from H.M. Stationery Office, price 2s. 6d. and 1s. each, respectively.

Luxury Buildings and Housing Schemes.

READER writes:—"As a practising architect, I shall be glad if you could inform me on the following, which I am sure would also interest many other gentlemen in a similar position to myself. Are luxury buildings are banned in my district, with the result that the architects are starved for want of work, yet there are housing schemes involving an immense amount of money, controlled by the Borough Surveyor's department, who no doubt will require architectural assistance to carry on the work. I know that in several districts private architects are commissioned for this work. It will be of interest generally to know on what conditions they are employed, if there is any advantage financially to the ratepayers in the employment of private architects, and who pays the architects, the Treasury or Local Rates. Am I right in stating that the Treasury allows 10 per cent. to authorities for the staff required to carry on the work?"

—With reference to the conditions upon which private architects are commissioned these are in accordance with those agreed upon with the R.I.B.A. The architect's payment is contributed to by a rate up to a penny, Government grant, and rent. The answer to whether the Treasury allows 10 per cent. for the staff required to carry on the work is No. Particulars of the scale of fees agreed upon between the Government and the R.I.B.A. were published in our issue of July 21, page 68.



ASKERN GARDEN CITY. G. E. WITHERS, F.R.I.B.A., ARCHITECT.

HY-RIB USED AS CENTERING.

Another Notable Example

NEW "GLORY PAPER MILLS," WOOBURN GREEN.

Architect, Mr. E. C. P. Monson, F.R.I.B.A., F.S.I.

Interior of the Air Drying House. Shows the arched HY-RIB roof plastered. Very high grade paper will be dried here and the roof is designed to avoid any possibility of "dripping" on the paper. The ascending moisture condenses on the roof and runs down the sides.

Exterior view of Air Drying House under construction. Entirely in reinforced concrete on the Kahn System. Note the wide and continuous window areas.

The HY-RIB in position ready for plastering with cement plaster. The secondary beams, or purlins, are reinforced concrete "Tees" precast on ground and hoisted. On and between these the curved HY-RIB is laid in two layers making a double roof with air space.

These timber arches (centering for main beams) were the only centering used for this fine example of an arched roof. Timber shuttering is entirely obviated with HY-RIB *because HY-RIB is both a centering and reinforcement.*

HY-RIB is a steel centering of great rigidity dispensing entirely with close-boarded timber shuttering. HY-RIB also provides reinforcement.

The new HY-RIB HANDBOOK is ready. This is a handsome booklet full of drawings, photos, and practical information. Write to-day for your copy.

THE TRUSSED CONCRETE STEEL CO., LTD.
52, Truscon House, Cranley Gardens, South Kensington, S.W.7

THE

Cure for Damp Walls

IS

"PROTEX"

(BLACK CARBON EMULSION)

THE application of our **"PROTEX"** to the brick plaster, or other surface produces a pliable film or coating which entirely prevents the passage of any damp or moisture.

"PROTEX" never becomes hard or brittle, neither will it crack nor flake. It is easily applied, being put on cold with an ordinary brush.

"PROTEX" is a tenacious bonding medium, and plaster or cement can be affixed to any wood, metal, or other surface without the aid of any special key.

TRADE

MARK

"PROTEX" gives a perfect damp-proof film, and the plaster can be applied directly to it, without furring or lathing, saving cost of materials and labour, and economizing space.

"PROTEX" can be papered over.

"PROTEX" is supplied in ½, 1 and 2 gallon cans, 5 and 10 gallon drums, and 20 and 40 gallon casks.

Booklet with full particulars from—

GEORGE M. CALLENDER & CO., LTD.

(Dept. PX.) 25, VICTORIA STREET, LONDON, S.W.

Telegrams : "QUARRIABLE, LONDON." Telephone: 4642 VICTORIA.

The Week's News

(Concluded from page 312)

Housing at Beeston.

Work has commenced on the erection 28 houses for the U.D.C.

Housing at Thurstonland.

The U.D.C. have decided to erect dwell-gs at Cake Lane, Brockholes.

New Club for Blyth.

New premises for the Blyth Constitu-nal Club are to be erected in Union reet, Blyth.

Housing at Liverpool.

Liverpool has now completed 100 of the al of 1,200 new houses which are being vided.

Welsh Contract Sent Abroad.

Newport (Mon.) Town Council have de-ed to place a contract for electrical chinery with a Swiss firm

East Cranmore War Memorial.

The scheme for the provision of a war morial in East and West Cranmore in-des the erection of a village institute.

Housing at St. Austell.

The R.D.C. have decided to apply to Ministry of Health for sanction to a n of £187,000 for housing purposes.

Concrete Houses for Leeds.

Subject to the approval of the Housing mmissioner, the Leeds Housing Com-tee intend to erect 222 concrete houses.

Peterborough Housing.

The Peterborough Rural District Coun-has accepted a tender of £98,000 for the ction of 106 houses in various villages.

Housing at Hessle.

t is estimated that over fifty new houses be available by the end of October. e Council's scheme makes provision for n 350 to 400 houses.

Battle Housing.

The Ministry of Health have sanctioned loan of £1,350 to the Battle Urban ncil in connection with the acquisition he Wellington Field housing site.

Housing at Dumbarton.

umbarton T.C. have accepted tenders unting to £52,863 for the second de-pment of their housing scheme at erton, comprising fifty-five houses.

Carnarvon Housing.

he Carnarvon Town Council have pted a scheme for the erection of 100 ses for £110,000, subject to the roval of the Ministry of Health.

Bridgwater Housing.

he Bridgwater Urban District Council e received the sanction of the Ministry Health to borrow £60,000 for the erec-of working-class dwellings in the dis-.

Empire Memorial Hostel.

n Empire Memorial Hostel is to be ted in the Port of London (on a fine already acquired), to commemorate 15,000 merchant seamen who laid n their lives in the Great War.

Bridgford Memorial.

nction has been given by the West lgford U.D.C. to the erection of a war norial on the council's ground at the er of Musters Road and Bridgford d. The suggested form is that of a e monument, about 20 feet high.

Labour Exchange for Nottingham.

new labour exchange for Nottingham be built on the vacant site at the corner of Castle Boulevard and Wilford Street. The Ministry of Labour, acting through H.M. Office of Works, has purchased a site of 2,218 sq. yds.

Housing at Castle Douglas.

Castle Douglas Town Council have decided to proceed immediately with the erection of twelve houses, the estimates for which have now been approved by the Board of Health—viz., eight four-roomed and four three-roomed houses.

Roadside War Memorial.

Lieutenant-General Sir Ivor Maxse has unveiled at Sledmere, near Driffield, East Yorkshire, a carved allegorical memorial erected on the roadside to fallen members of the Yorkshire Wagoners' Reserve—a unit which was raised by the late Colonel Sir Mark Sykes, and by whom the memorial was designed.

Merthyr Hospital Extension.

Important temporary extensions to the Merthyr General Hospital have been commenced under the joint supervision of Mr. W. E. G. Richards and Mr. Chas. Morgan Davies, architects. The buildings will be constructed externally with weather-boarding and internally with asbestos sheeting. Provision will be made for fifty-four beds.

Eastbourne Water Supply.

An independent firm of engineers, appointed to inspect the wells and plant of the water company's undertaking, which the Corporation have provisionally agreed to purchase at a sum of £450,000, have favourably reported, and have strongly recommended the municipal body to acquire the property.

Birdingbury Hall Sold.

The records of Birdingbury Hall, Warwickshire, which has been sold privately, go back to the 11th century, when Earl Leofric owned it. Later the Biddulf family held it for over 200 years. Birdingbury Hall is one of the finest Elizabethan houses, with mullioned windows and a carved staircase.

Queen Mary's Home.

The amount received on behalf of Queen Mary's Home for St. Bartholomew's Hospital Nurses is about £100,000, and a further £100,000 is needed to carry out the purpose of the fund, which is "the proper housing of nurses in training in all parts of the Empire," the aim of the promoters being to combine "economy with comfort."

Whiteabbey Sanatorium Extensions.

The Belfast City Council have passed the recommendations of the Tuberculosis Committee that plans be prepared for extensions to Whiteabbey Sanatorium. The proposed additions at present include a central heating station for the whole institution, a central kitchen, a laundry, a disinfecting room, and extensions to the pavilions and hospital.

Knole Park in the Market.

In its essentials the Gloucestershire mansion of Knole Park has remained unchanged for centuries, but it is now "changing hands." Sir Robert Atkyns described and illustrated Knole Park in his "Ancient and Present State of Glostershire," published in 1712. The house is Tudor, and a few discreet alterations were made more than 100 years ago. An octagonal tower is a striking feature of the old mansion. The existing avenue of yews is shown in the oldest drawings of the property, but the geometrically designed grounds and plantations have lost their former rigidity. In the early eighteenth century they fully achieved the aim of the old designers, expressed by one of them as "the separation of the garden from the surrounding scenery."

Codnor Housing.

Building operations on Codnor's housing scheme have commenced. The plan is to build 100 houses eventually, but the present contract is for 14, and the land comprises 12 acres. The houses are of two types built in pairs, one type to cost £1,894 9s. 2d. per pair, and the other type £1,870 9s. 2d. In addition there is fencing, drains, fees, etc., which brings the total cost to £15,250 17s. 10d., or over £1,000 per house.

A. and S.A.P.U.

An exhibition of architectural and survey drawings has been arranged by the executive of the Architects' and Surveyors' Assistants Professional Union at the Norwich Housing and Home Life Exhibition, to be held at the Agricultural Hall, Norwich, from October 1 to 16. The drawings, which will be displayed on the stage of the Assembly Hall (first floor), are intended to bring before provincial students and others good examples of professional draughtsmanship.

New Technical College for Chesterfield.

Alderman G. A. Eastwood, of Chesterfield, has presented a site and made a gift of £25,000 towards the cost of building a technical college in the town at an estimated total cost of £100,000. Plans prepared by Mr. P. B. Houfton provide for a college to be erected in four sections—a main block, a north wing, a south wing, and a lecture hall at the rear.

Proposed New Cinema for Birmingham.

A proposal is afoot to erect a picture house in Suffolk Street, Birmingham, at a cost of about £100,000. The new picture house is designed in the Eastern style of architecture, and will be called "The Orient." The plans provide for accommodation for 1,800 people. There will be a large "crush" hall sufficient to shelter 1,600 people waiting for admission, and there will be a big café, possibly a roof garden, and every modern convenience.

New Workshops at Beckton.

We are informed that Messrs. Peter Lind and Company, reinforced concrete designing engineers and contractors, of Westminster, have been awarded the contract for the important new workshops for the Gas Light and Coke Company, at their Beckton Works. The building, we understand, will be of reinforced concrete throughout, and the erection of same will be carried out by Messrs. Lind and Co.'s own staff of workmen to the designs prepared in their own engineering department.

Bradford's £295,000 Estate.

When the Midland Railway Company definitely abandoned their scheme to carry their line through the centre of Bradford, to put that city on their main line, they agreed to give the Bradford Corporation the first chance of purchasing the important property on the proposed route of the line. According to a correspondent of the "Daily Telegraph," the Corporation

has now made the purchase, amounting to £205,000, of which the company will invest £100,000 with the Corporation for a short period. The property acquired, which is in the centre of the city, covers 230,000 square yards, includes thirty large warehouses, mostly in the centre of the city, some smaller business premises and shops, over 100 cottages, and a few middle-class dwellings, one fully-licensed public-house, and two or three smaller licensed premises.

Housing at Doncaster.

Application has been made to the Ministry of Health for powers to borrow £44,520 for the Barnby Dun scheme. The Ministry of Health has sanctioned the borrowing of £2,417 for the purchase of the Bawtry site. The general lay-out plan for the erection of eighty-two houses at Bawtry had been forwarded to the Housing Commissioner, and application is being made to borrow £7,225 for the scheme. The Housing Commissioner has agreed to the purchase of fifteen acres of land at Conisboro'.

Heath Town's Housing Scheme.

Progress is being made with the erection of houses at Heath Town, and four dwellings, part of the Council's scheme of 300 houses, have been opened. Three sites have already been secured, viz., Newbold (Fallings Park), Bickford Road, and Cannock Road and Coronation Road. Two other sites have been approved by the Ministry of Health, and negotiations with the owners are proceeding. Thirty houses are in course of erection, fourteen of them nearing completion, while twelve have been allocated. The houses contain entrance hall, six rooms, and bathroom.

Trade and Craft

"World-Wide Publicity."

A copy of "World-Wide Publicity," published by the well-known firm of advertising agents, Messrs. Fredk. E. Potter, Ltd., Imperial House, Kingsway, London, W.C., has just come to hand. It gives one a good idea of the service that a really up-to-date advertising agency can and does render to its clients. Reproduced in its pages are reduced specimens of many advertisements designed and written by Fredk. E. Potter, Ltd., and also tributes from many of the advertisers whose publicity is handled by this firm. A copy of the brochure, which is extremely interesting, will be sent free on application to any responsible firm or person.

New Motor Garage Floor.

The illustration shows the Anti-Hydro floor, which has been constructed for Mr. H. G. Burford at a new motor-car factory in Ladbroke Grove, London. Owing to the fact that hundreds of cars pass through the garage every month, the question of the floor was extremely important, and the use of Anti-Hydro for this purpose has given every satisfaction in hardness, quality, and cost. Real advantage was secured by the owner in being able to use the floor within seventy-two hours after it had been laid, when it is stated that a steel-wheeled trailer heavily loaded made no more impression on the newly-laid floor than did the rubber-tyred lorry to which it was attached. Anti-Hydro, which has been used in America for fifteen or sixteen years, was introduced into England last year by Mr. Frederic Coleman, of the Adamite Company, Regent House, Regent Street, London, W.1, who are English agents for Anti-Hydro, and it immediately attracted, he states, notice from the extraordinary results which were obtained by using it. At that time the only extensive job which had been done with the use of Anti-Hydro was a big retaining wall for Messrs. Selfridge. Since then Messrs. Selfridge have put Anti-Hydro floors in their big garage and warehouse near Paddington Station; the London General Omnibus Company began to use it in a number of different ways; the Anglo-American Oil Company, who have a very large building programme for the next few years, began to use it extensively; the General Electric Company have used it; and large orders have been received from many other important business firms. Anti-Hydro is easy to use. One merely puts one gallon to every ten gallons of water with which the concrete is to be gauged. No stirring or special mixing is required, nor is exact measuring a necessity. It is claimed that the concrete resulting from the use of Anti-Hydro is not only dustless, waterproof, greaseproof, oil-proof, frostproof, and acid-resisting, but it is of an adamantine hardness, which will not flake nor rut nor crack, and seems to have wearing qualities that are unique. Anti-Hydro floors laid fifteen or sixteen years ago in America are said to show no sign up to date of any sort of disintegration or wear.

A New System of Slating.

The systematic investigation of building costs now being undertaken by the Ministry of Health, and also by the architectural profession as a whole, has so intimate a connection with building methods that it is very necessary to consider them from the standpoint of their effects on each other. This relationship is so obvious, and the difficulties now facing those engaged in building are so numerous that the very closest examination of any suggestion for modifying traditional methods becomes imperative. Much has already been accomplished in the direction of cheapening construction, by the adoption of what has been happily termed the "newer" materials, these having f time to time been brought to the notic architects in these columns.

Careful thought has also been dev by various inventors to this question high building costs, and their enterpris devising improved methods of construc has effected considerable economies building work generally. For exan the Ecclesgill Patent Slating Company lately introduced a method of laying s which, it is claimed, reduces the sla by 25 per cent., and the lathing and pointing by 50 per cent. This sys although following the "diagonal" ciple, possesses features which disting it from the now familiar method so la employed in laying asbestos cement s on the roof of factories and bungal The chief distinction consists in the a tion of a much steeper angle (varyin tween 60deg. to 80deg.) for the lines taining the lower edges of the long sid the slates, than the customary 45deg. ploved in the case of asbestos cement r

As a consequence of this steeper the laths or battens, which are laid zontally, may be spaced at greater tances apart than would be necessar the old method, or the 45deg. dia method. If 20 in. x 12 in. slates be t as examples, the battens for these m fixed 14 in. apart, as compared 8½ in. required for horizontal slating. slates themselves are pierced near upper edge with two holes, and as o them is rather lower than the other become level when the slates are hu the particular angle the system dem With regard to the courses, the slate laid in rows with overlapping edg such a way that the lower portions of upper row overlap the upper portio each lower row, and thus break joi

It will be evident from the fore brief description of the system that definite and notable economies of ma and consequently of labour, will follo adoption of this new method of slat ing, the advantages of which inclu slight reduction in the scantlings o timbers due to the decreased load th called upon to bear.

ANTI-HYDRO FLOOR IN A MOTOR-CAR FACTORY, LADBROKE GROVE, LONDON.

RUBEROID ROOFING

THE WEST PIER PAVILION, BRIGHTON,

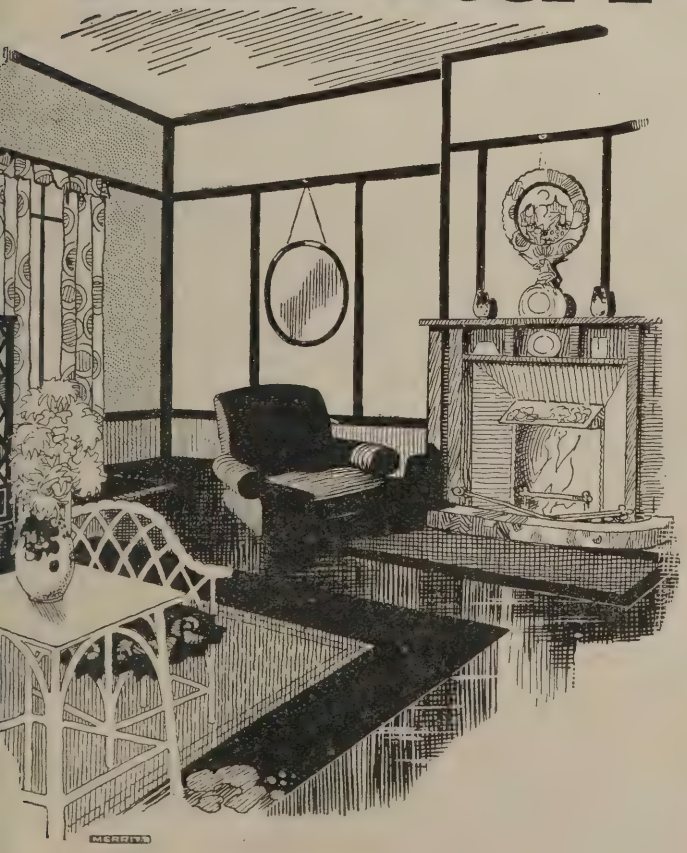
entirely roofed with Ruberoid in 1916, forms an excellent example of the efficiency of Ruberoid for buildings in exposed positions, or subjected to exceptional vibration. It is scarcely possible to test a roofing under more drastic conditions. After standing the heat of four summers and the storms of four winters, the roof is as sound as when first fixed, and for many years to come can be relied upon to remain proof against all weather. Ruberoid is unaffected by sea-air, spray, acids or alkalies. It can be used on flat, pitched or curved roofs, and laid on boards or concrete.

Our Catalogue contains illustrations of some of the many types of buildings roofed with Ruberoid during the past 29 years. It will be sent free with samples on request.

THE RUBEROID CO., Ltd., 1, Waterloo House, 81-83, Knightrider St., E.C.4

Branches: Newcastle-on-Tyne, Birmingham. *Branches: Leith, Dublin.*

Venesta Ply-Panels



For quick, dry, and reliable construction there is no form of wall and ceiling decoration to compare with Venesta Ply-Panels, and the result when completed is far superior to anything possible with lath and plaster walls.

Venesta Ply-Panels are comprised only of selected and flawless "plys," waterproof and unshrinkable, and they will last as long as the house in which they are fixed.

They are non-absorbent, sound resisting and fire resisting, and their delightful surface is admirable for taking enamel, distemper or polish without any preliminary preparation.

The panels are quite easy to fix either to brickwork or over old plaster walls, and the joints when covered with the strips or moulding form the panel design.

Venesta Period Panelling

Where a more elaborate decoration is desired such as Dining Rooms, Billiard Rooms, Libraries, and Board Rooms, etc., Venesta Period Panelling is the ideal material.

It gives an air of distinction wherever it is installed and its value increases with age.

We design, supply and fix to suit any Room in Tudor, Jacobean, or other period panelling in various woods.

Write for illustrated Booklet of Ply-Panels, Period Panelling and Parquet Flooring.

Venesta Ltd.
Plywood Manufacturers
1. Great Tower Street. London. E.C.3

CONTENTS.

Edited by PROFESSOR A. E. RICHARDSON, F.R.I.B.A.

Notes and Comments: Licentiates Organising; Coal and the Cost of Bricks; War Memorials to Scottish Regiments; Sculpture in America and Britain, 337. Exemplary Chester; Royston Hall, a Home of the Byrons; Concerning Mahogany; World Wide Sanitation; The Work of E. A. Rickards; Aerial View of Property 338

The Week's News 339, 361

Architectural Causerie: Anecdotes. By Aero 340

Architectural Training: A Suggested Reform. By E. T. Huddleston ... 341

Bryanston and Montagu Squares. By G. Ll. Morriss and H. W. Parnacott 345

Museum Lectures 346

The Price of Bricks: Profiteering Act Enquiry 349

Correspondence: Sir Alma Tadema's House; Employers Requiring Assistants 350

Coming Events 350

Glasgow Housing Exhibition: Domestic Innovations. By E. N. B., 355, Other Exhibits 356

Weekly Housing Report 359

Sanitation and Housing. By Sir James Crichton-Browne, M.D. ... 359

Glasgow Housing Schemes 360

Trade and Craft: Ferrolithic; Messrs. Robt. Ingram and Co., Ltd.; Cooking by Electricity ... 362

Current Prices of Materials xix

Standard Specification for Portland Cement xx

Competitions Open xx

Complete List of Contracts Open xxii, xxiv

ILLUSTRATIONS:

Bramante 335

Modern Ecclesiastical Architecture. 9.—The Cathedral, Birmingham. Thomas Archer, Architect 336

Air Views of Buildings. 6.—Ely and the Cathedral ...

House at Sandown, Isle of Wight ... ...

Modern Domestic Architecture. 18.—House at Sandown, Isle of Wight. A. H. Belcher, A.R.I.B.A., Architect ...

Modern Domestic Architecture. 19.—No. 35, Montagu Square, London: Adaptation to Modern Requirements 352,

Glasgow Housing Exhibition: The Stand of Messrs. Pinchin Johnson and Co., Ltd.; and of the Beaver Board Co., Ltd., 355. The "Easiwork" Kitchen Dresser ... ...

Measured Drawings. 4.—Dodo House, Chichester. Measured and Drawn by G. Norburn ...

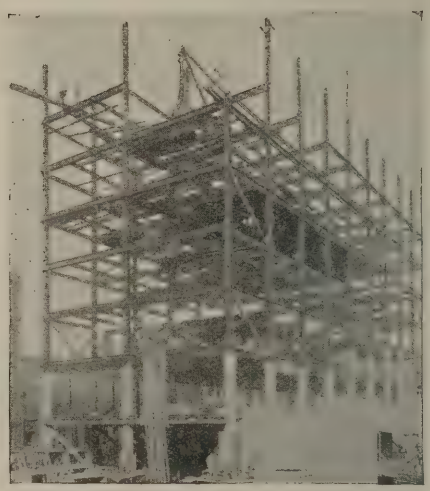
The New Showroom (with Demonstration Kitchen in the rear) of the Jackson Electric Stove Company, Ltd.... ...

DAWNAY DEFINITIONS—3.

CONFIDENCE.

CONFIDENCE is the basis of all successful enterprise. To be able to count on material being right, and the service being progressive is half the battle. As we can guarantee this, the moral of this announcement is obvious. Send us your enquiries for constructional material.

Stocks of
British Standard Sections in Joists, Channels, Angles, Tees, Flats, etc.



ARCHIBALD D. DAWNA

AND SONS, Limited.

Telephones: Battersea, 1094. (3 lines).

Steelworks Road, Battersea, S.W.11

Telegrams: "Dawnay, Battsqu London."

Telephone: Cardiff, 2557.

And at East Moors, Cardiff.

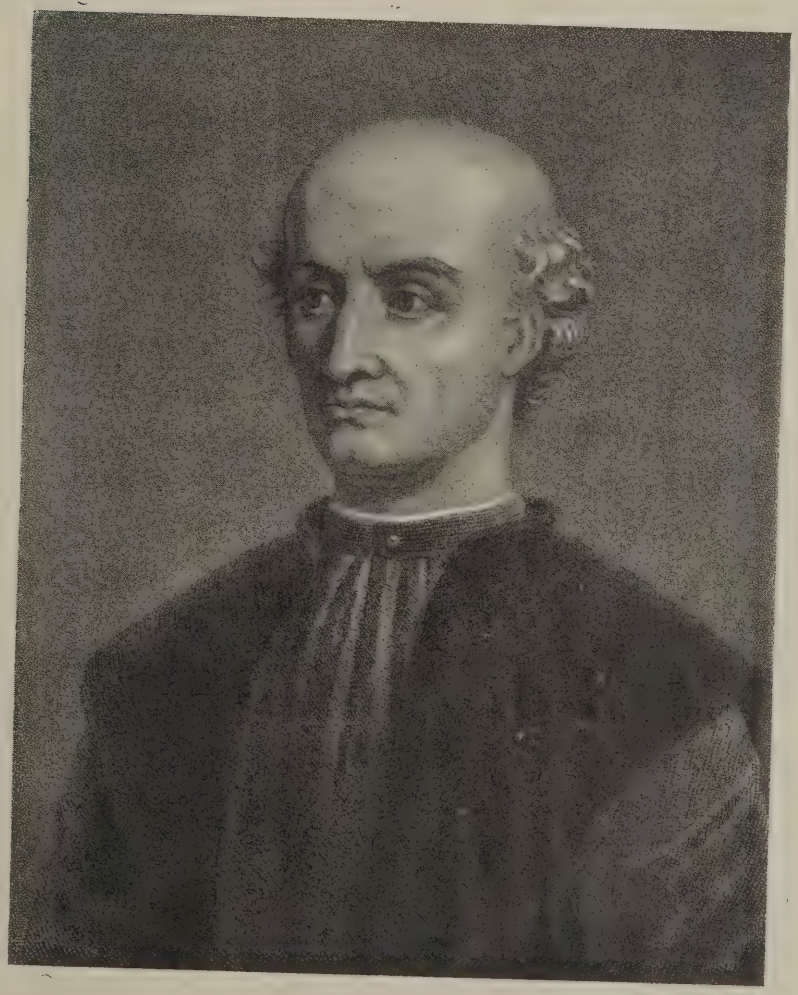
Telegrams: "Dawnay, Cardi

dnesday, September 29, 1920

Volume LII. No. 1343

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



BRAMANTE

Donato Lazzari Bramante (1444-1514) had become a successful painter before he turned his attention to architecture. His name is chiefly associated with St. Peter's at Rome, for which he made the plans, but here, as elsewhere, his designs had to be extensively revised by Michelangelo. Bramante added the dome to the church of Sta. Maria della Grazie at Milan, and did much domestic as well as ecclesiastical work.

27-29 Tothill Street, Westminster, S.W.1.

Modern Ecclesiastical Architecture. 9.—The Cathedral, Birmingham

Thomas Archer, Architect

The parish church of St. Philip, Birmingham, built in 1711-1719, and considerably enlarged in 1884, assumed the dignity of a cathedral in 1904. [illegible] of the quaint church of St. John, Westminster), was a pupil of Vanbrugh. A

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.
'ednesday, September 29, 1920
Volume LII. No. 1343

Notes and Comments

Licentiates Organising

THE decision "That an organisation of Licentiates be formed to advance their interests and those of architects generally" is to be welcomed as a symptom of vitality. As the position has sen as a development of the election of representatives the Licentiates to the Unification Committee that is ing formed by the R.I.B.A., unity rather than fission indicated. That, at least, is the fervent hope of all o wish well to the profession as a whole. Why centiates should be regarded as a class apart, and ould countenance this distinction by banding themves together as if they were a separate body, is a estion for psychologists; but, taking the incident as it nds, one is bound to accept the paradox that segrega- n is essential to unity. This is one of the innumerable tances in which it is easier to link up groups when ir units are combined. Reluctant, therefore, as we to admit any necessity for distinctions between ious groups in the R.I.B.A., we cannot but admit that he groups are to exist at all it is fitting that they uld be organised. Were they to continue to be scat- ed and isolated units there would be no proper means ascertaining their collective views or of meeting condi- ns that may be peculiar to them. By organising they ome effectual. There is certainly some slight danger t organisation may make them too effectual. ganisations, as current events have made us y too well aware, may become a deadly menace Government; but there is very little to fear from the anised energies of the Licentiates. Brought together he interests of unity of the entire profession, they will, n ultimately that unity is secured, dissolve automati- y, or, rather, will coalesce with the general body of profession at large. In the meantime, the first issue he organisation has been the election of an executive mittee, consisting of the Licentiates' representatives he Unification Committee and five others who were ed to their number at the meeting at which it was lved to form the organisation. It is rather a good that the subscription is merely nominal. The nisation is not likely to wax fat and kick on an ual contribution of five shillings a head. But it never need a war-chest. Mr. J. E. Yerbury is chair- , and Mr. Samuel G. Short hon. secretary, of an nisation which we trust will be fruitful of all good s, thus justifying the blessing which Mr. John W. oson, President of the R.I.B.A., has bestowed upon The very act of organisation is a practical proof of miable desire to co-operate with one's fellows.

Coal and the Cost of Bricks

here is no profiteering in bricks. The Departmental mittee appointed to inquire into the matter shows the average profit on the bricks for a house built r the national housing scheme is not more than £10. The high prices for bricks are found to be due to increased wages, costly coal, and the expense involved in reopening works that had fallen into disrepair and decay while shut down during the war. Of these items, the cost of coal may not yet be the most formidable; but if the miners get their way it soon will be, with the possible result of ruining the brickmaking industry by conferring an enormous advantage on raw materials that have not to be cooked before they are consumed. In plain words, concrete blocks will at this rate be cheaper than bricks, which they will therefore supersede still more extensively than they have done already.

War Memorials to Scottish Regiments

An inquiry conducted by "The Times" has elicited some interesting particulars with respect to projected regimental memorials. Of these the Scottish schemes are the most ambitious. The Seaforth Highlanders' Association wishes to raise £50,000, which, however, will most likely be too minutely subdivided to allow of any very large memorial being set up; the weight of opinion in the regiment and among its friends favouring assistance to those who have suffered in the war and to their dependents rather than the erection of monuments; but small memorials will be set up in the parishes to which the fallen soldiers belonged. Iona crosses set up at Vimy Ridge and on a site to be selected in the regimental district, and a subscription towards the Scottish National Memorial at Edinburgh Castle, will absorb the residue of the funds. Aberdeen is the headquarters of the Gordon Highlanders, and at a town's meeting there it has been decided that the memorial shall take the form of a rest home for non-commissioned officers and men, the cost to be £40,000. The Camerons and the Royal Scots will concentrate on the national memorial; but the Cameronians contemplate a memorial to be placed on the battlefield at Neuve Chapelle, where, in March, 1915, the second battalion was almost annihilated.

Sculpture in America and Britain

American sculpture is nearly if not quite the finest of modern times. The Lincoln statue in Parliament Square has prepared us for the lavish admiration of "American sculpture on its native soil" expressed by Mr. E. V. Lucas in the first of a series of articles he is contributing to "The Times" under the heading "From an American Notebook." He observes that "the statue seems almost as natural a part of civic ornament in America as it is in France, and is not in England; and the standard as a rule is high." In particular he likes the horsemen—the spirited equestrian statue of Grant near Michigan Avenue; Anthony Wane dominating the landscape at Valley Forge; George Washington in several places; the rough-rider in Fairmount Park, Philadelphia. No one can say, he super-

fluously reminds us, that all American sculpture is good. There is, for instance, behind New York's Public Library, a gigantic bust of Washington which would be better away; "nor are the lions that guard that splendid institution superabundantly leonine; but the traveller is more charmed than depressed by the marble and bronze effigies that meet his eye—and few witnesses have been able to say that of England." But how often they have been able to say the opposite! Mr. Lucas names, as among the more remarkable public works the symbolical figures on the steps of the Boston Free Library, and the frieze in deep relief on the Romanesque church on Park Avenue in New York; and he found "something big and impressive" in the Barnard groups at Harrisburg. When he comes back, our poor and scant London statues will seem to him to be more paltry than ever. But the London public do not encourage sculptors; else one of them—a man with a splendid gift—would not have been driven to seek the comparative affluence that awaits the waiter at a restaurant.

Exemplary Chester

A year ago Chester Town Council turned to excellent account certain provisions of the Town Planning Act. The Corporation refused to sanction the erection of steel works on a site in Curzon Park—a beautiful district overlooking the River Dee. This public-spirited action they have now followed up by purchasing for £14,750 the estate of nearly fifty-two acres, with the intention of using a portion of it for housing, and the rest possibly for playing fields. In preserving their ancient and delightful city from the grimy fate that threatened it, the burgesses of the City of Chester have acted wisely, philanthropically, and with an exemplary regard for the amenities.

Royton Hall, a Home of the Byrons

Fine oak-panelled rooms, magnificent staircases, stout rafters, choice mullioned windows—are not these elements of a sixteenth-century mansion covetable? It is said that Americans are after some of them, but it is preferable that the hall should stand intact. It is said, however, to be "in the market," and Mr. Arthur R. Scott, President of the Manchester Archæologists' Society, is appealing to the wealthy cotton spinners at Oldham and district for funds to enable the purchase of the Hall, the idea being to make it a lecture hall. Royton, which in 1212 was held by William Fitzwilliam, and in 1301 was sold in great part to John de Byron, remained in the Byron family for 400 years. Sir John Byron rebuilt the hall about 1585. Sir J. E. Radcliffe owned the hall until last month, when he sold it to the present proprietor, Dr. Godfrey, who is offering it for sale. Members of the local architectural associations should get permission to measure and draw it before it is demolished and carried piecemeal to America. Sixteenth-century houses are becoming scarce, and this one was the home of the ancestors of the poet Byron.

Concerning Mahogany

Correspondents of "Notes and Queries" have lately become inquisitive about mahogany. One question about it having led to another, somebody asks whether Dr. Johnson, who discussed the material with Boswell, entered its name in his dictionary. We can answer for it that the word does not appear in the fifth edition, dated 1773, of which a copy happens to repose on our shelves amongst other relics of the eighteenth century; nor, of course, is the word given in a four-volume encyclopædia of twenty years earlier date which keeps it company. Yet modern works of reference tell us that 521,300 ft. of mahogany was exported from Jamaica in 1753, and that, in fact, the timber was first noticed by the carpenter on board Sir Walter Raleigh's ship in 1595; that in the early part of the eighteenth century Dr. Gibbons brought it into notice as well adapted f furniture-making—by employing the cabinet-mak Wollaston to work up some specimens that (Gibbons's) brother had brought to this country. Th began the new era in cabinet-making, of which elega art-craft mahogany is still the mainstay.

World-wide Sanitation

International sanitation is coming. Sir Jam Crichton Browne, in his splendid address to the Congr of Sanitary Inspectors at Margate, expressed high ho for the activities of the International League of Heal Sanitary science, Sir James recalled, made an indeli impression on the minds of men when, in 1915, the R Cross Societies of the Allied countries stamped out three months a virulent epidemic of typhus fever. I anticipated that the League will establish public hea and research laboratories, "a pattern for which," arc tects will be glad to learn on the authority of Sir Jam "was set up fifteen years ago, when the Welco Tropical Research Laboratories were established in c nection with the Gordon Memorial College at Kh toum." In reiterating his demand, made at Cardiff th years ago, for greatly increased facilities for the edu tion of sanitary inspectors—facilities which he belie will be provided "some day" by our universities and te nical colleges—he was touching on a subject in which R.I.B.A. should be keenly interested. Building be inseparable from sanitation, the Institute, which alre holds examinations for surveyors, should act in conju tion with the Royal Sanitary Institute in promoting s an effective scheme of education as Sir James desires. requires no great imaginative effort to foresee erection of a university, or, at least, some college c university, or several colleges of several universit specialising on the higher education not only of sani inspectors, but also of architects, builders, decorat manufacturers of building requirements, art craftsm Sir James did not suggest this development, but he c jured up the much larger vision of "world-wide sar tion"—a phrase that should set the manufacturers sanitary ware thinking harder than ever on the ways means of scientific progress.

The Work of E. A. Rickards

In some of the obituary notices of the late E. Rickards, there has been a disposition to compare work with that of other artists, in particular with tha Piranesi, with whom, we should say, he has but littl common save breadth and vigour. It might be said but little exaggeration that whereas Piranesi is all glo Rickards is all gaiety. But his collected drawings s that, whatever virtues Rickards had imbibed from g exemplars, he was pre-eminently himself, and reall comparable.

Aerial Views of Property

Estate agents have been quick to perceive the v of aerial views. In "The Times" of Septembe appeared the first aerial photograph in an advertiser of an estate for sale—that of Cavenham Park, Suff There is no other way in which a complete view o estate of 2,600 acres and its environment could be sh at a single glance. In introducing the series of air v now current in this Journal, we suggested that there be many useful objects to which such views coul adapted. It must be confessed, however, that we not in mind at the moment the very utilitarian se which has been found for them by the estate agents, however, are certainly to be congratulated on their s ness of perception and promptness of action. Journal, and the "Architectural Review," were per the very first periodicals to publish aerial photograp were, at all events, very early in the field—forese their value in town-planning and surveying.

The Week's News

New Generating Station for Nottingham

A scheme for the erection of a generating station near he Trent at a cost of £1,000,000 by the Nottingham City Council has been sanctioned by the Electricity Commissioners.

Southend Hospital

It is suggested that the hospital accommodation at outhend should be extended. It is proposed to spend 100,000 on building and equipping, and £20,000 a year n maintenance.

Bedfordshire War Memorial

Lord Ampthill and the committee of the Bedfordshire nd Hertfordshire Regimental Association are erecting regimental war memorial in the form of a mausoleum, anked by walls and seats, so as to form a semi-circular aved enclosure. The names of the fallen will be reorded on a scroll inside the mausoleum.

Repairs to St. Paul's

A number of large iron girders are being used at St. aul's Cathedral to support the much-weakened centre ch of the south transept while it is under repair. Work the preservation of St. Paul's has been going on since 13. Recently several large cracks and fissures have peared in the fabric, and the dome has subsided ghtly. The repairs to the south-western pier used arly 3,000 ft. of Portland stone and over 20 tons of ment.

A Relic of Old Norwich

The Suckling House, Norwich, an ancient building of torical and antiquarian interest, which is threatened th demolition, was for generations the residence of the cklings, the direct ancestors of Lord Nelson. Cosens, famous Bishop of Durham, was born in the house, ich has many other interesting links with the past. ere are interesting groined vaults, and behind the use is a fine fourteenth-century hall. It is feared that the house is demolished the hall will suffer a similar e later on.

Westminster Abbey

The Extension Board of the University of London e arranged for the coming session a course on "The story and Architecture of Westminster Abbey." The rse consists of five lectures and visits held at fortitly intervals on Saturday mornings. One lecture- t will be devoted to the architecture of the Abbey, lst others deal with its monastic life, with Royal bs, and with graves and monuments. Another course nged by the Board deals with the "Ten Ancient City rches which Escaped the Great Fire of London." e course will be held under the direction of the same urer on Thursdays at fortnightly intervals. Visits be paid to St. Bartholomew the Great, the most ient of all the City churches which escaped the great ; to St. Andrew Undershaft; to St. Giles's, Cripple- ; and to St. Helens, etc.

The Stowe Art Treasures

he outlying lands of the Stowe Estate, Bucks, and contents of the mansion, said to be the second largest ngland, are to be sold. Statuary, pictures by Remdt and Gainsborough, and the temples in the grounds also be sold. In 1848 there was a memorable auction hristie's of the art treasures then at Stowe. The ens at Stowe were laid out by Sir Richard Temple, Pope praised them in one his "Moral Essays." The les in the grounds have had a great deal written t them, and Walpole spoke of the one dedicated to s as having "simplicity and merit," but he also ded the Gothic Temple there.

Building by Government Grant

The progress of building under the terms of the Government Grant to private builders maintains a satisfactory standard. During the week ending September 25 the number of houses completed reached a total of 1,454, of which 173 were completed during the week. A sum of £38,840 was paid in respect of these 173 houses, and one builder alone received a cheque of £3,250, being the grant payable on fifteen houses built at Golders Green. The number of plans approved for houses to be built under the grant reached 19,189, an increase of 550 on the previous week's return. Altogether the commitment of the Government in respect of the grant to date is £4,650,213.

Million Francs to Assist Arras

A meeting, which has been held in the Newcastle Council Chamber, has agreed to endorse the action of the City Council in regard to Newcastle's adoption of Arras in the devastated area of France. The Lord Mayor was able to announce that he had been promised substantial financial assistance. The movement is associated with the Anglo-British League of Help, upon whose suggestion several municipalities in the United Kingdom are "adopting" French towns that have been devastated through the war. It has been decided by the committee that, in the first instance, they should aim, by way of their justification of their "adoption" of Arras, to raise a million francs.

Housing and Town Planning

The first annual report of the Ministry of Health as to housing and town-planning states that the Department has been greatly assisted by a special housing propaganda, of which Mr. D. Lleufer Thomas is a member. The average costs per acre of land approved for housing sites have been: County boroughs, £215; other boroughs and urban districts with a population of 20,000 and over, £221; boroughs and urban districts with less than 20,000 population, £174; rural districts, £123; total average, £183. Demonstration centres have been established at Cardiff and other centres. The average cost per house has been £794 in urban and £773 in rural areas. During the period March 31, 1919, to July 30, 1919, authority was given for the preparation of schemes in respect of areas containing more than 29,000 acres of land, including: Aberavon, 940 acres; Cardiff, 47 acres; Bedwas and Machen, 670 acres; and Margam, 254 acres.

Cost of Building

A meeting of a special committee of the Nottingham and Derby Architectural Society and a deputation from the Nottingham Master Builders' Federation has been held to discuss important questions connected with the building industry. The President of the Architectural Society (Mr. H. G. Watkins) said that his Council had decided to ask the R.I.B.A. to co-operate with the builders and employees, through the Joint Consultative Committee, in making a thorough investigation into the causes, and to see if any practical steps could be taken to reduce the cost of building. The Council had also requested the Institute to make an effort to prepare a list of manufacturers of building materials and goods who were prepared to give firm quotations. He asked the master builders to support their efforts in this direction, and to bring pressure upon their headquarters to support these steps. The President of the Master Builders (Mr. Bosworth) stated that it was almost impossible for builders to give firm contracts until they could get firm quotations from the manufacturers.

(*News continued on page* 361.)

Architectural Causerie: Anecdotes

IN the eighteenth century it was customary to publish every telling incident connected with the lives of artists; not a little amusement was in this manner provided for a rainy day, as can be judged from a quiet perusal of the works of Walpole, Smith, Cunningham, and a host of others. We can pass over such attempts at wit as the following, "Design for a Ballroom by Dance," or "The Planning of a House by Chambers," to enjoy one or two time-honoured stories of the men of genius who contributed so much interest to the reign of the Georges.

* * *

Sir William Chambers, who shared Sir Joshua Reynolds's appreciation of literature, very justly observes "that it must not be imagined that buildings, considered merely as heaping stone upon stone, can be of advantage, or reflect honour either on countries or particular persons. Materials in achitecture are like words in phraseology, which, singly, have little or no power, and may be so arranged as to excite contempt; yet, when combined with art and expressed with energy, they actuate the mind with unbounded sway. A good poet can move even with homely language; and the artful disposition of an able architect will give lustre to the vilest materials, as the feeble efforts of an ignorant pretender must render the most costly enrichments despicable. The progress of other arts depends on that of architecture. When building is encouraged, painting, sculpture, gardening, and all the other decorative arts flourish as a matter of course, and these have an influence on manufactures, even on the minutest mechanic productions; for design is of universal advantage and stamps a value on the most trifling performances, the consequences of which, to a trading people, are too obvious to require illustration." The above statement, although a trifle sententious, will perhaps serve to make clear Sir Thomas Jackson's recent outburst in the public Press. It is certain that never at any time like the present have the kindred arts been reduced to such impotence among the commercial assets of the country.

* * *

When Sir Christopher Wren built the Church of St. Magnus, London Bridge, there were houses on each side of the bridge, which projected as far as the church. When these houses were pulled down the footpath came directly against the church, so that the passengers on that side were obliged to go round into the coach road. This was found very inconvenient, and a meeting of the inhabitants was held to consider if they could with safety cut a road through, which was thought too hazardous an expedient, as it was apprehended that any such interference with Wren's work might bring the church down about their ears; in consequence the scheme was shelved. A second meeting was afterwards held, when it was determined by a small majority to make the experiment. The workmen, on breaking through the wall, found a complete and perfect arch, which Sir Christopher, foreseeing with prophetic taste that the houses would at some future period be pulled down, had left in its present form. Sir Christopher, with all his sagacity, could not foresee that his Church would one day be threatened with demolition by the ecclesiastical authorities, or doubtless he would have provided against the contingency—not by leaving a single arch, but a whole court or arches.

* * *

Architects as a body are not prone to shed tears when asked to act against their better judgment. However much they feel inclined to express annoyance, it is generally held to be polite to stifle emotion and to preserve an attitude of Oriental stoicism. Sir Christopher Wren encountered many difficulties when he was engaged upon the rebuilding of St. Paul's. Charles the Second, who posed as a patron of the arts, allowed his brother, the Duke of York, afterwards James the Second, to negotiate with Wren regarding the addition of side oratories to the architect's original plan, which to Wren's mind disturbed the simplicity of his work. Sir Christopher, aware of the ultimate effect of this ill considered project, and guessing at the Popish inclinations of the Duke, could not refrain from shedding tears in speaking of the frustration of his purpose. The Duke laughed at the architect's tears, and insisted that his, the Duke's, commands should be obeyed, so poor Wren had to recast this part of the design and issue instructions anew to Master Strong.

* * *

In these days little is heard regarding the rewards and punishments of architects, although, according to Sir Thomas Jackson, the "Englishman," and the "Daily Mail," many evildoers deserve hanging. Few architects make egregious mistakes in construction, although they may be guilty of errors of good taste. It is of interest therefore, to understand that from the earliest times architects have always experienced alarm before receiving praise. In 1500 Joas Potassi designed the church at Belem, in Portugal. The nave completed, the vaulting failed; his explanations as to the cause of the disaster having been favourably received he was allowed to do the work over again, but he became alarmed before the scaffolding was removed, fled to France, and only returned when he was assured of the stability of the new work. This time the architect was rewarded with a substantial pension, and his bust was carved on the first column on the Gospel side. In Turkey, according to Evliya, it was customary to cut off the hands of the head builders who failed in their work: others were rewarded by having streets named after them, and one enlightened Christian designer who, late in the seventeenth century built the Mosque of the Fishery at Algiers, was either burnt or bowstrung as a reward for his labours; perhaps it was on account of his religion.

* * *

It might be urged that architects who produce successful essays in street architecture should receive a bonus from their clients in addition to the ordinary fees sanctioned by the Royal Institute. There might be some demurring to this in these days of high costs; on the other hand those guilty of transgression in the matter of taste might be kept under surveillance for a stated period until they mended their ways. Following the suggestion of the President of the Royal Institute, surely some sum of prize could be offered annually for the best façade erected in London. The money could be provided by the local authorities, and would be shared by all and sundry. Such a reward would create healthy competition among architects; it would do a great deal towards the stimulation of interest among the citizens, and might possibly curb ill-directed labours.

* * *

Many artists have been rewarded with a knighthood, but no man has heard of an architect who became a peer through sheer merit. At one time it was urged upon Queen Victoria to raise Professor Cockerell to the peerage, but either on account of opposition on the part of the Gothicists, or of Cockerell's own unwillingness to submit to the extreme honour, the matter lapsed.

* * *

One more anecdote, and this time one concerning an eminent Victorian architect, to wit St. Aubyn, whose reputation as a linguist astonished the builders.

ubyn wrote to the builder engaged repairing the church ›ire, somewhere in Northamptonshire, to say that, fair eather or foul, he would visit the works within a week, ıd personally superintend the placing of the vane and eathercock on the spire. St. Aubyn took train from uston, arrived at a wayside station during a storm, ove to the church, and insisted on being hoisted in a sket to the summit of the spire. In vain did the aster mason expostulate with the fiery St. Aubyn, inting out that it was positively dangerous to attempt e fixing of the vane during the continuance of the storm. St. Aubyn used the direst threats until the mason gave way. Then the basket, with the architect as passenger, was hoisted to the topmost plank, where, during one of the worst thunderstorms ever known, the iron rod of the vane was set. What with the thunder and the lightning, the rocking of the steeple, and the architect's flow of invective, small wonder that the mason felt inclined to commit suicide; as a matter of fact, directly the operation was over he resigned his job. No reward and a merciful escape from punishment!

AERO.

Architectural Training: A Suggested Reform

By E. T. HUDDLESTON

AT the moment when the Architectural Schools are renewing their activities after their summer solstice, the following frank criticism of established methods of architectural training umes particular interest and importance. It is reproced from "The American Architect," and, coming m such a source, is naturally free from the charge of s with which native criticisms of British practice are rly always met. Moreover, the criticism is essenly constructive, and the suggestion of State schools—ich for us would mean municipal schools—deserves eful examination. Mr. Huddleston's article is as ows. He will no doubt welcome criticisms from the glish point of view.

Much has been said and written about the shortıings of the past and present-day methods of archiural education, but as yet there seems to have been decided action taken by any particular body of archis or group of educators in changing those methods et forth in the existing curricula of the architectural ools. True, a few courses of study have been dropped substitutions made that may have strengthened the rse, but as yet no concrete plan to the writer's knowge, has been accepted as meeting the criticism cted against the architectural schools.

The Objective Stated

ranted, that the present method of education for ng men who intend entering the profession as archis is wrong or deficient in principle or subject matter ht, whatever the real reason may be for the acknowed failure to produce men qualified to carry on the k of the architect. Can there not be found among whole profession one man or a group of men who can talise this elusive element and inject it, by reason of or their standing and with the backing of such a as the A.I.A., into the consciousness of those who the direction of architectural curricula in the schools e country, and bring order and assurance out of the rtainty that now exists?

e writer offers a few suggestions which he trusts will to a more thorough discussion of this subject by individuals who are in time to lead us out of the rness; and, after all is said and done, I believe we find that a large part of our present uncertainty and ulty with this problem have been due to a difference int of view of the whole matter. Are we not lising the path of the aspiring student of architecture the "finish" instead of travelling that path with rom the very start? And, after the student has ed the prescribed course and offered himself to the ssion, is he not judged wholly from the level of the ssful architect, and not from that of the beginner s equipped to take on responsibility and, with proirection, assume more and more the duties of the ect as he grows in experience?

Commencing Architect

Assuming the student has finished his course in one of our colleges of architecture, and, without having had much experience in an architect's office, he offers himself to the profession. What service can he render, and, in so doing, how is he fitting himself for independent practice if that is his ambition? Has that not been largely the state of affairs the architect has had to face in recruiting his office force and, in the failure of the novice to fit into any niche which the present-day office has open to him, is not that the reason for the cry of failure on the part of the educational institutions?

It may be the schools have fallen short in providing their students with the proper foundation on which to build a successful career. I feel that the greater mistake has been and is being made in the manner in which the students are received by the profession and their abilities put to use.

On the Bottom Rung

Let any successful architect think back to that point of time in his career comparable to that of the student leaving college and seeking his first job in an office, and he will remember that the immediate future held for him a maze of diverging paths with very few sign-boards to direct or assist him. Contrary to his expectations of an assured place in the profession as engendered by the spirit of his work and his associations in the school, he finds himself placed at the very bottom of the ladder and told in no uncertain terms that he is not a practical man, and that he can be of no real value until he throws overboard all his theories and learns the duties of the office-boy and apprentice draughtsman. In just about one week such a beginner has had most of his ideals of a career destroyed, and his outlook upon the profession is narrowed down to an eight-hour day of monotonous toil as a tracer alongside the apprentice draughtsman with no college education who may be making full-size details.

Your answer to this is right. The beginner should have worked in offices during summer vacations and been ready to assume greater and more responsible tasks when he had graduated from his college course. I believe here is where we shall find the right solution in giving our new men a better equipment to earn their places in the profession.

The schools are doing and will do their part to give all the academic work that the men need, but they cannot do it all. The architect must co-operate to the extent of recognising the limitations of the schools, and make places for the men in their offices during their preparatory years of study, treating them not as wage-earners alone, but as students who are in time to carry on the work of the profession.

So I repeat, is it not a difference in point of view between the educators and the employers or architects that is causing the difficulty, and not in what the schools

are teaching? Are not the schools attempting to produce architects, and, contrary to popular belief, are not the architects confining their consideration of the students' qualifications too closely to the field of drafting? And if that is at all true, can any one expect the student to develop himself with his academic training as his stock-in-trade by the process of absorption and what contact with those in the offices can do to give him his insight into the larger field of effort that the architect is supposed to control?

The school, as a school alone, cannot give the student the training he requires to fit into the organisation of an architect's office and render a service other than that of what I might term as the office-boy-draughtsman type. It cannot, with its present form of instruction, accomplish anywhere near the results accomplished by the "University of Beaume" of the A.E.F., which largely confined its curriculum to the study of executed work. There we have the two extremes in method of instruction, and surely a happy medium, containing the good points of both methods, should produce results with less faults than are now obtained.

Getting Out of the Rut

I hesitate in offering any direct solution. Others who have studied the problem have no doubt felt the same way about it. It is a question that cannot be settled in a moment or by the stroke of the pen, but there can be no doubt in our minds that some radical steps must be taken soon if we are to get out of the present ruts of precedence and tradition. I do not claim to have a solution to this problem, but, by reason of having been such a student as above portrayed, a graduate from a college of architecture with no previous office experience, several years spent in different offices acquiring that experience we now acknowledge to represent the weak point in our school training, several years more as a teacher, developing a course in architectural construction in a State college, and now head of such a department, in which the institutional buildings are designed and their construction supervised, I feel that what I do offer in the way of a suggestion for a course of training is not so visionary in character, but what some point may be found worthy of consideration by others, and lead to a better understanding of the problem that must be solved soon if we are to fill the ranks in the profession with men capable of becoming leaders.

A few of the larger American States have established State Departments of Architecture for serving the architectural interests of the State efficiently and economically, and it is only a question of a few years when all States will have done the same. These departments should by all means co-operate to produce harmony and uniformity in institutional architecture that will lead to economy in not only the work in the department, but also in the construction under its supervision.

In order, however, to make such a department an economical investment for the State, sufficient work must be required of it that otherwise would go to outside agencies at a greater cost, or additional functions must be incorporated that are income bearing in order to reduce the maintenance costs.

State Colleges

State Colleges are recognised as paying investments, although they cost the State money to maintain. Every State College already has certain State Departments doing work for the State, and also serving as educational media in the college. Whether or not all State Departments should be located at the State College as already advocated, is a question beyond the point at issue, but I do believe there can be found no better location for such departments whose functions are such as will readily co-ordinate with the educational departments of the college, and thereby eliminate the wasted effort in ma tenance and personnel of two separate departments, a also deprive each other of the benefits of co-operat research, use of equipment, and the stimulus that wo come from the greater demand for its product due to larger interests it would serve.

Disregarding the make-up of the curriculum, wh is a matter now receiving very earnest study by th who are best fitted to solve its problem, we start students in their course and hold them to their acade work for at least two years, possibly three, with s supplementary study during their summer vacations conditions will permit, sketching, measuring details, studying executed work. From that time on, the stud should then be introduced into the State Department, given such duties as would ordinarily fall to the appr tice, at the same time carrying on his academic work.

A proper co-ordination of these two activities possible whereby the student can very rapidly grasp routine of an architectural office, understand the diffe processes that go to make the finished product, an the end of the fourth year he should have completed normal academic work, and be in a position to rend real service in the department office.

A Six Years' Course

I suggest that the course should be of six years ra than of four, in that there seems to be no doubt but w heretofore students have been rushed through their sc training at too rapid a rate and dumped into the pro sion in a rather bewildered state of mind. The fifth sixth year spent in the department office on State w supplemented with advanced study in design, engin ing, or whatever phase of the work he is best suite follow, will give him an equipment that will go far tow meeting the criticism that is now directed against school graduates.

On the other hand, the State is receiving the assist of these men for two and three years. The overh expense of doing this State work is partially absorbe this assistance, and by the co-operation with the col department in utilising the same men as teachers will have charge of the actual work in the State De ment.

This economy holds true all the way down from head, who can well be the State architect in charge o two departments, to the stenographer, and where, in present schools of architecture, the effort expende design and draughting is wasted as a commercial duct, by proper co-ordination of work in classroom department office and supervision of advanced stu over those of less experience, much of that effort tha for its primary object the training of the student draughtsman and architect can be turned into an that will show a credit for the State work.

The profession in general will be greatly benefite such a programme in that the instruction given t students who are afterwards to carry on the work o architect will be given by practical men who are in t with the progress that is being constantly mad methods and materials, and thoroughly acquainted all details pertaining to the practice of architecture profession.

The school will be benefited by the closer relations would prevail between it and the building interests o State, which now have very little to attract them t State College, while both the school and the State receive the benefit of the saving that such a depart can make in the institutional construction work, a the increased efficiency in the training that can be of to the men and women of the State in not only arch ture as a profession, but also architecture as a cu study, which now is being denied to the larger prop of college students.

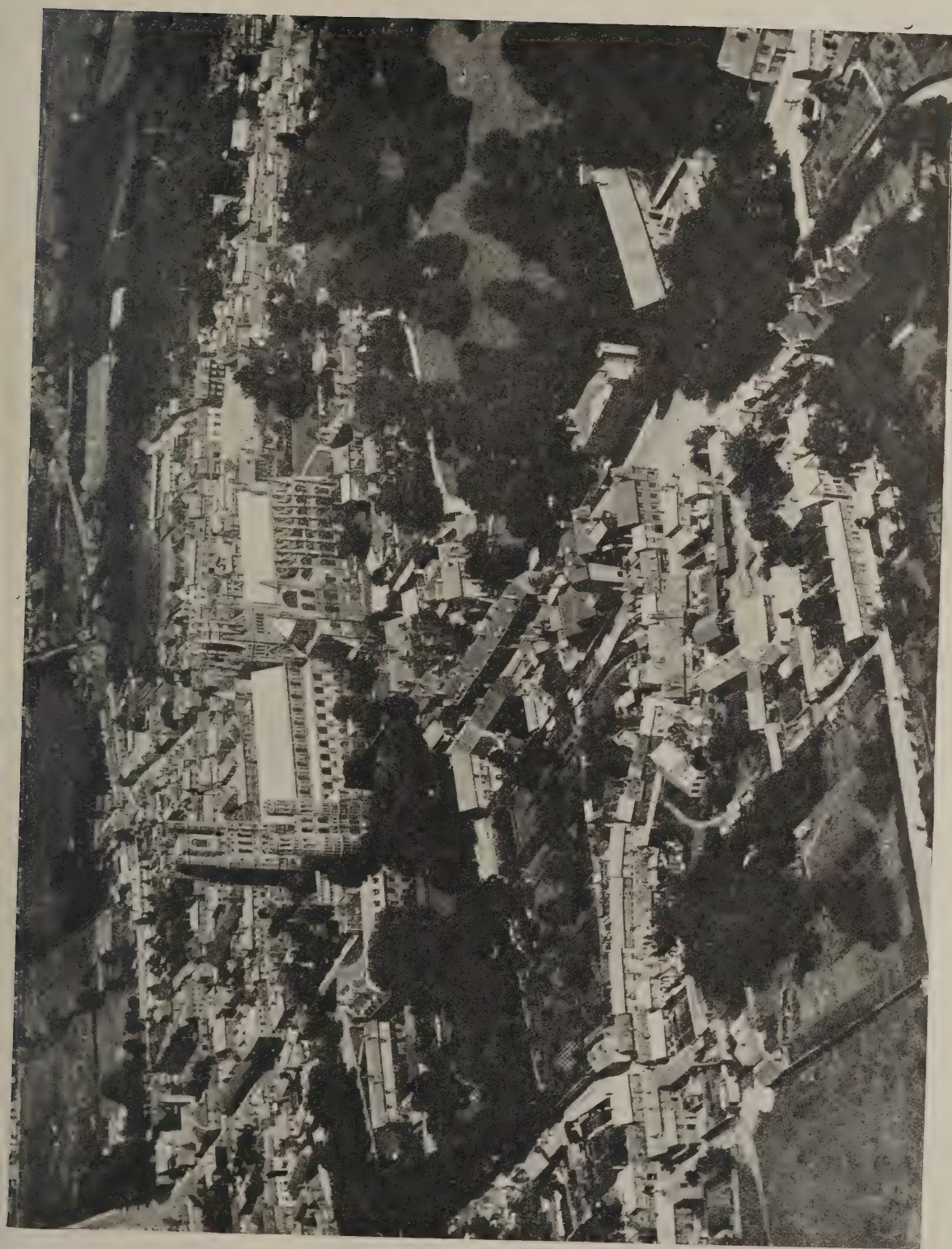


Photo: Aerofilms, Ltd.

Ely Cathedral, which naturally dominates this aerial view, looks even more heterogeneous than it does when seen from the ground. It is indeed a mixture of periods. Its Late Norman nave was completed about the middle of the twelfth century, the western tower and transepts were built during 1174-1189, and the Early English western porch was erected between 1198 and 1215. The original Early Norman apse of the choir was rebuilt and extended about the middle of the thirteenth century. The octagon tower, with its lofty lantern, is the result of a rebuilding in 1321. In the 'seventies of the nineteenth century, Sir G. G. Scott, R.A., was entrusted with extensive alterations.

Bryanston and Montagu Squares

By G. LL. MORRIS and H. W. PARNACOTT

MONTAGU SQUARE is situated to the north of Oxford Street, London. No. 35 is close to the one-time re- nce of Anthony Trollope, the novelist. the rear it abuts upon the back of one the houses in Bryanston Square, ther square of about the same dimen- s and shape as Montagu Square, and allel to it. Though we do not remem- that Thackeray mentions either of e squares in his novels, they are not from the district in which he housed nany of his characters. There is Port- Square a little to the south-west, and the other side of Oxford Street, hed by way of Orchard and Audley ets, is Grosvenor Square, almost in middle of Thackeray's country, and ner southwards, in Curzon Street, is nouse where Becky Sharp resided.

Architectural Features

xternally, the houses in Bryanston and tagu Squares, with which we are nearly concerned, are much like y's. They cannot lay claim to any ptional architectural merit, but they f good proportions, and in some cases e they have not been tampered with ess well-designed entrance doorways balconies. No. 49 and No. 50 in tagu Square have good examples, No. 21 is exceptionally fine, with c columns on each side of the door- and with the honeysuckle pattern duced into the tracery of the fanlight e.

Bryanston Square, on the eastern western sides, the houses are subordi- l to a lengthy composition with a al and wing treatment. In both the s and the central block the walls of ouses are covered with plaster, those houses between on the stories above first floor being left unplastered. lham Place, a short street, with s of much the same modest charac- eads off centrally from the northern St. Mary's Church rises at the end and completes the view. This lay- or one somewhat similar, is charac- c of late eighteenth and early nine- century town planning. Other ples have been noticed at Regent e, King's Cross; St. Peter's Square, nersmith; and King's Square, Gos- Road. In the first and last-named urch is situated in the middle of one sides, and in St. Peter's at the end hort street leading out of the square one of the four corners. It should ticed that, as in a number of the n squares built during this period, uses and church form part of a de- if simple composition on classic

he Value of Tradition

the best examples the church is lly in the position mentioned, in it occupies the central garden, and during the Gothic revival, in a r of the squares originally planned t one, the garden was given up to ch, often without the slightest re- to the size of the square and its dwellings. Of this unsatisfactory ement Cloudesley and Granville s in North London are examples. lly, the elevations of the houses in ton and Montagu Squares, particularly in the former, are homely and well proportioned. Their adaptation might well be the first step toward a real revival of domestic town house planning and design, and study of the examples of this period has confirmed our belief that in these modest buildings may be found the pattern upon which to base the buildings for all future town planning schemes in London. We cannot with impunity ignore this tradition; if we do so it will be at the risk of the same disorderly development that we have witnessed in the past. An architect, able or otherwise, does just what he may fancy in the way of a design for a public or private building. It is of any period, and in any style, regardless of surroundings. This absence of a common standard is the chief defect of the modern London street. No one would imagine from a study of the buildings of our most gifted contemporary architects that London possessed a building tradition, so completely has it been set aside during the last eighty years. It is only recently that we have seen a successful attempt by Messrs. Adshead and Ramsey to follow this tradition. They laid out Courtenay Square and some of the streets adjoining at Kennington. It remains to be seen whether their lead will be followed, or if we shall elect to "go as you please" in the future, as we have done in the past.

A Typical Residence

From these remarks, into which we have been led by a recognition of the need for authority in London architecture, we will turn to the adaptation of No. 35, one of the houses in Montagu Square (see plans and sections reproduced on pages 352 and 353). The plan is typical of a West End residence of modes, dimensions, and is on the usual site, of considerable depth from front to back.

A reference to the original plans indicates how lacking the basement is in modern conveniences. The kitchen and scullery adjoining are at the rear of the main staircase overlooking the mews. A larder, inconveniently placed, is at the back of the area which lights the butler's pantry, and another larder is off the lobby between the front and rear portions of the building. The latter has a fixed borrowed light in the wall next the scullery, and no ventilation of any description. The butler's pantry is lighted only from a very small area between the front and rear portions of the building, and the usual lead sinks and draining boards are fixed next the window, draining into a gully in the area, into which the rain-water and soil-pipe are crowded in close proximity to the larder. There is a large wine cellar between the butler's pantry and the housekeeper's room. This is seldom absent in these plans, and is usually of generous dimensions. The housekeeper's room looks out upon the front area, which is paved with flag-stones. A flight of stone steps down from the street gives access to it, and to the tradesmen's entrance. The two coal vaults under the pavement are also reached from this area, and in one of them is the only water-closet in the basement, without any proper sanitary precautions. The trades' entrance door had evidently been removed from its old position under the front entrance door to form a lobby. This darkens the passage and blocks up all possible ventilation from the water-closet, and in any case this passage was badly lighted and paved with stone flags, as in the kitchen and scullery.

The entrance hall is a long and somewhat narrow corridor widening out at the rear to provide space for the main staircase, and for access to the basement by a flight of steps under it. The dining-room is in the front, and the library at the rear overlooking the flat roof of the kitchen. Above the scullery is an ante-room with another water-closet lighted from the same small area; this lighted also the larder in the basement. Beyond the small ante-room is a cloak-room, and out of it is the only lavatory and bath-room in the whole house. It is quite common in many of these old houses to find the later addition of a bath on the ground floor. (In a house in Carlton Terrace the bath was under the grand staircase.) The staircase up to the first floor gave access from the half landing to a long narrow conservatory, obviously a later addition, extending to the mews wall over the bath-room, etc. Continuing up the staircase a large landing gave access to the front and back drawing-rooms, in this case not divided as is the usual rule by a partition with folding doors, and on the next floor there are two large bedrooms. The main staircase finishes here; the floor above is reached by a steep, dark, secondary staircase with a water-closet under it. A window in the rear partition gives borrowed light to it from the main staircase window. The soil-pipe is carried along the wall in a wooden casing, discharging outside into the little area to which we have previously referred.

The secondary staircase gives access to the third floor with four bedrooms, the two large ones are for guests or the family, and the very small ones for the servants. Upon analysing these plans we are led to wonder why such inconveniences were tolerated, and even worse arrangements could be cited. The basement, not by any means the most flagrant of examples, is very unsatisfactory. The undesirable area at the rear, into which the sewage water and the wastes discharged from the butler's and housemaids' sinks, and from which the larder is ventilated, would not be passed nowadays. Then, again, the service between the dining-room and the kitchen is most inconvenient, everything required to be brought up the dark steep steps from the basement to the ground floor. This involved much waste of time, and on the ground floor awkward situations must have arisen when bathing operations were in progress, although the provision of the small ante-room, turned for the time being into a dressing-room, obviated this to a certain extent.

The long narrow hall on the ground floor, lighted by the fanlight over the entrance door, and the feeble light from the conservatory on the half-landing, gave a cramped and uncomfortable feeling on entering the house. The landing on the first floor was more or less dark, and lighted only from the half-way landing between the first and second floors. An early Victorian feature is the provision of a glass enclosure outside the window of the back drawing-room for the cultivation of ferns —a pastime dear to early Victorian young

ladies—and was probably intended to exclude the dreary back elevation of the buildings opposite. It is not a brilliant notion, as there is no ventilation and the damp arising from the necessity of keeping the plants moist must have encouraged rheumatism and other complaints. The rooms on the second floor are spacious, but the lack of proper sanitary arrangements, the absence of a lavatory and bathroom, and the unpleasant and damp water-closet, left much to be desired, and the floor above with only four bedrooms certainly gives insufficient accommodation for guests and a proper staff of servants.

Converting the Old

In the alterations, the chief aim was to obtain more light in the basement for the kitchen and corridor; to achieve this the old trades door was removed and refixed in its original position, and the fanlight made higher and glazed with ribbed glass fixed at an angle to reflect as much light as possible into the corridor. This allowed proper means of ventilation for the water-closet, which was retained in its original position, and a modern apparatus was provided with connection to the new drains and a concrete floor laid. The flagstones were taken up and the floors and passages relaid with wood block flooring on proper surface concrete. It is an economy to relay with the warmer material, as there is a good market for the old stones. For the scullery floors tiles were used, and the walls of both kitchen and scullery were lined with a dado of white tiles to a height of 7 ft. This gave these rooms a bright and clean appearance. Extra light was obtained by a lean-to skylight at the rear of the kitchen, the old flat was cleared away, and new joists laid at the same level to carry the new dining-room floor at the ground floor level. A small service lift installed at the rear of the staircase, between the basement and the ground floor, considerably accelerated the service. The butler's pantry was refitted with an oak sink and draining boards, and a strong-room contrived by cutting down the size of the wine cellar, which still remained ample for its purpose. A third room being required, considerable alterations were made on the ground floor. It was decided not to follow the frequent practice of providing a reception hall at the rear of the dining-room, that is, by removing the wall between the passage and the morning room, but to retain it and to build a dining-room over the kitchen and scullery, clearing away the present bath, dressing, and ante-room, etc., and the whole of the roof over the kitchen and scullery. Sixteen feet eastward from the rear boundary, two rolled steel joists carried the new wall from party wall to party wall, and a hipped roof covered the enclosed space, this form of roof being adopted so that as little light as possible was shut out from the internal area.

The flue from the new fireplace in this room and the one from the kitchen were carried across to the rear wall of the old portion of the building and carried up together to the top of the main building to prevent any smoke nuisance. In the rear boundary wall an opening was formed and a flat bay window inserted. By these means a fine, well-proportioned dining-room was obtained, approached through a large top-lighted lobby in which the service lift was placed. The old water-closet was removed and a new one erected. By inserting two rolled steel joists to carry a nine-inch wall from the new dining-room wall to the main building a well-lighted lavatory and w.c. were obtained. The dining-room was laid with parquet flooring. As the new wall of this room was 3 ft. within the old wall of the kitchen an additional top light became possible for the latter. The existing rooms were not altered, only painting and redecorating being necessary.

Owing to the alterations on the ground floor, the conservatory off the first landing, and also the steps, were removed, the opening partly blocked up, and a new window inserted. This gave additional light to the staircase. On the first floor the drawing rooms were re-decorated and painted, and the floors laid with parquet. With this exception very little alteration was made on the first floor. On the second floor the existing secondary staircase was cleared away and a new w.c. with proper access to it was provided. A new secondary staircase was built and a bathroom, with a large cupboard adjacent, was arranged in the front portion, utilising one of the smaller bedrooms. This arrangement is not altogether satisfactory, but as a bathroom was required on each of the second and third floors there appeared to be no more suitable way out of the difficulty than the one adopted.

The third-floor storey has been altered considerably. The whole of the roof was taken away and a new floor and ceiling was built three feet higher than the original one. A bath, w.c., and housemaids' closet were arranged and the windows made higher and wider. The new staircase was continued up to this floor, which contained four new bedrooms, making altogether three extra rooms. Two rolled steel joists, 13 ft. apart, were used, carried by the party wall on each side. Between these ordinary wooden joists were laid and carried over the existing partitions, which were not touched, but simply increased in height. Another rolled steel joist was fixed near the party wall to carry the chimney breasts and hearths of the new bedrooms over. The new roof over the top floor was trimmed for a large skylight above. The staircase and a door gave access to this roof, which was of the ordinary hipped kind. external walls were raised, but as adjoining houses were a storey hi additional height to the party wall unnecessary.

The addition of a storey is alwa questionable proceeding, as in the maj of these houses the single buildir generally a unit in the design for a w terrace, square, or crescent. As it pened in this example the adjoi houses were a storey higher and sugg the addition. It is desirable that general lines of the existing cornice parapets should range, and in any lutely necessary external alterations turesque and original ideas shoul studiously avoided; they are dange and easily degenerate into a per eccentricity, and often into a mere d to increase one's importance at the pense of one's neighbour.

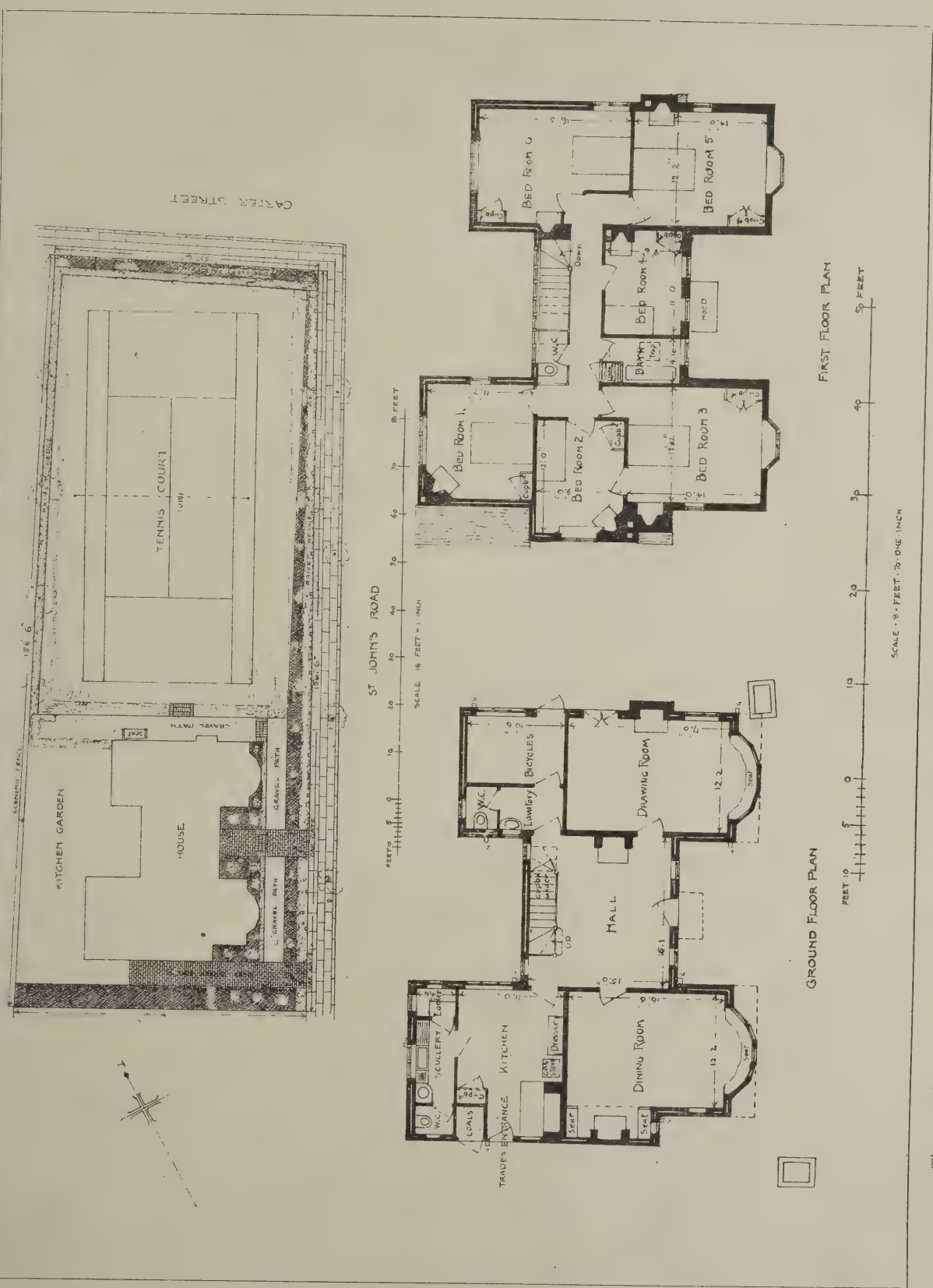
Both architect and client should at least a sufficiency of knowledge, such respect for these buildings as prevent the disastrous vandalism whi often occurs in handling the proble their adaptation.

Museum Lectures

The University of London Exte Lectures in the two national mus will be resumed in the forthcoming sion. At the British Museum, Banister Fletcher will commence tailed study of the history of archite dealing in the first year with Prehis Egyptian, West Asiatic, Greek, Ro Early Christian, and Byzantine arc ture. The lectures will be amply trated by lantern slides, photogr diagrams, and models, and will be on Wednesday afternoons at 4.30 ginning to-day, September 29. A Victoria and Albert Museum, Mr. Pe Gaskell will deliver a course on Flor Art of the Renaissance on Thursday noons at 3 o'clock, beginning Se ber 30. The lectures of both course be illustrated by the exhibits ir national collections.

HOUSE AT SANDOWN, ISLE OF WIGHT.

A. H. Belcher, A.R.I.B.A., Architect



The perennial charm of half-timber work is here very legitimately developed in the twin gables and beautiful roofs. The style is one that custom cannot wither; and the planning also—the spacious hall between the dining-room and the drawing-room, the long corridor between the bed-rooms—is of approved comfort, and convenient. Inside and out, the house is homelike.

The Price of Bricks

Profiteering Act Enquiry

HE Board of Trade have issued an interim report on prices and profits in the brick trade, prepared by a sec-nal committee of the sub-committee on ilding materials appointed by the anding Committee on Trusts.

The members of the Sectional Com-ittee were: Messrs. J. W. Lorden, M.P. hairman); W. F. Drew, F.I.O.B.; W. allacher; E. V. Harris, F.R.I.B.A.; B. Johnston, J.P.; J. W. Laing, W. T. dgard, F.I.O.B.; E. H. Selby, F.S.I.; lney Taylor, and W. Williams. The cretary to the Sectional Committee was . W. H. Bowmer.

The Committee state that they have de enquiries into the various processes ployed in the manufacture of all classes bricks, and especially building bricks own to the trade as "stocks" and ettons."

Stock Bricks

The home of the stock brick trade is on estuary of the Thames in Kent and ex, especially in the locality of Sitting-rne, Kent, and this class of bricks is ely used in London and district. The erials are largely prepared in the ter months, weathered and made up in summer, so that the actual manufacture he brick is a seasonal operation. The , after being brought from a distance, rst liquefied and allowed to settle. The lus water is afterwards drained away a sprinkling of ashes thrown on top. plastic clay is then worked in a pug- and hand-moulded, after which the ks are wheeled out into hacks to dry rally. The process of drying usually pies about fourteen days, and when the bricks are wheeled into a clamp, h may hold a million, for burning. ashes previously spread over the tic clay burn themselves out when n a start, with the result that all vege- and foreign matter is destroyed. n the burning is completed the clamp rted down into various grades. Stock s are graded as follows: First hard s, second stocks, mild stocks, single h stocks, place bricks. This system ading is of comparatively recent adop-

A few years ago they were only d "stocks," but when the pressed s came on to the market and entered competition with "stocks" for school ings, etc., further grades were made eet this competition.

Fletton Bricks

is class of brick is manufactured in Peterborough district, is machine ed, and its market extends from the Coast of Yorkshire with an exten-rade in the London area. The clay for this brick is unprepared, and reaches a depth varying from 20 ft. to 100 ft. Excavation is carried on by steam navvy, and no hand touches the clay until it is in the shape of the brick. The bricks are cheaply produced in large quantities, and can be manufactured in all the four seasons of the year. They are used principally for internal work and footings. In the years before the war, the Committee continues, the brick trade was far from being a profitable one. Over-production caused the market prices to be out of balance with the cost, and many brick manufacturers were forced to go out of business, while others continued under receiverships after failure. What little prosperity there was in the trade moved in cycles, but almost invariably the losses made counterbalanced the profits made in more prosperous years. Witnesses have stated that their firms experienced very bad times between the years 1900 and 1914, and bricks were sold at almost any price to get them out of the way. This, they stated, was largely accounted for by the operations of the Finance Act, which prevented owners of estates from developing. When the Government required bricks for aerodromes, munition factories, etc., hopes were entertained of an improvement in the trade, and it was anticipated that an opportunity would arise for the trade to reimburse some of its losses of previous years, but control was instituted soon afterwards, and costings were investigated by Government accountants and selling prices fixed on the basis of these costings.

During the war the trade suffered severely, and a great number of firms were forced to close down their works. Those who carried on did so with great difficulty and in most cases at a loss. The Armistice found the trade in an even more deplorable condition, and the national output had been reduced to one-fifth that of pre-war; firms that had closed down during the war were faced with heavy expenses of restarting caused by dilapidations of buildings, waterlogged kilns, and depreciation of machinery. Having in view the condition of the trade in pre-war years with its fluctuations and uncertainties, we are bound to add that pre-war selling prices do not form a fair basis on which the present selling prices should be judged. About August, 1917, the Government commandeered large stocks of bricks, partly for use on munition factories and partly for huts, on account of scarcity of timber. This was followed soon afterwards by direct Government control, and prices were fixed on the basis of costings carried out by Government accountants and agreed to by manufacturers and associations. The reason for this control was to protect the trade by supplying it with workmen, fuel, etc., and to ensure a sufficient supply at reasonable prices to meet the country's needs, which at this period were most vital. Difficulties were met with in obtaining these costings, as a large number of firms employed rough-and-ready methods of doing business, and in cases where other commodities were manufactured no line could be drawn between the costs of production.

The Rise in Prices

Prices began to rise to the outside public soon after control was instituted on account of large increases in fuel and wages, and these have increased gradually ever since that period. When control was removed in the early part of 1919 no further official costings could be carried out, but the old costings were utilised as a basis for further contracts entered into between the manufacturers or associations and the Directorate of Building Materials Supply with certain allowances added for increases in labour, fuel, etc. Arrangements have been made for up-to-date costings to be made by the official accountants. Under our terms of reference we are to enquire into the existence of any trusts, combinations, etc., and the effect of such trusts, combinations, etc., upon prices, costs, and profits. We find that there are now many associations in existence—in fact, every district has its own—whose boundaries are determined by the similarity of clay and the method of manufacture. The two principal associations are the Pressed Brick Manufacturers' Association, which works the Fletton fields in the Peterborough district, and whose capacity is estimated at 450,000,000 bricks per annum, and the Stock Brickmakers' Association, which works the stock brickfields in Kent and Essex, and whose output varies from 250,000,000 to 300,000,000 per annum.

Roughly speaking, the purposes for which brick manufacturers combine:

(1) To regulate selling prices with a view to maintaining them at a profitable level.

(2) To regulate conditions of labour.

(3) To protect the trade in their own particular locality.

Some of the smaller associations were formed during the war for the purpose of collective dealing with the Government with regard to costings and prices.

We have had before us no evidence to show that this fixation of prices by associations is detrimental to the interests of the consumer; on the other hand, we have had evidence that it limits the profits of the builders' merchants. This system cannot be regarded as illegitimate, but we are of the opinion that dangers may arise in the event of these groups of associations extending their activities by co-operation. In no case have we found arrangements or agreements between associations. In the retail branch of the trade there are in existence several associations of builders' merchants. Price lists, based on merchants' cost prices, and showing a fair margin of profit to the merchant, are issued monthly, and although no penalties, monetary or otherwise, are imposed, one of the conditions of membership is that members will not sell below these fixed prices. In so far as the operations of these associations come within the scope of our enquiry

ity.	Average pre-war selling price. Per 1,000 bricks.	Average investigated cost during control (1918). Per 1,000 bricks.	Average controlled price (Feb., 1919). Per 1,000 bricks.	The average present contract price to the Government (June, 1920) at works. Per 1,000 bricks.
d Essex s	35/0	—	48/6 (Graded)	1st Stocks 85/6 2nd Stocks 80/6 Single Roughs 59/6 3rd Stocks 50/0
ster	27/6 26/0	27/8½ 39/5	39/5 52/11	51/0 83/8
England	29/0	58·2	65/11	82/6

we have no evidence to show that any undue advantages have been taken.

We give (p. 349) a comparative statement showing the average pre-war prices, average investigated cost during brick control (1918), the average controlled price (1919), and the average present contract price of bricks to the Government in June, 1920.

These prices are subject to further advances dependent upon increases in fuel, labour, etc.

The principal factors regulating prices of bricks of all classes are: (a) Labour, (b) fuel.

Labour

In 1914 the wages paid to an average labourer engaged in this industry varied from 4d. to 6½d. per hour, representing a weekly wage of 18s. 8d. to 30s. for fifty-six hours a week. Since that period official awards have been made from time to time until at the present time (June, 1920) a labourer is in receipt of a total advance of 43s. over and above his pre-war rate of wages. Taking the wages of the average labourer as 24s. per week before the war, he is now receiving a weekly wage of 67s., which represents an increase of approximately 180 per cent. When these various awards were made piece workers—youths, women, and boys—were advanced proportionately, and no reduction in wages was made when the weekly hours of work were reduced from fifty-six to forty-eight.

Fuel

The extent to which fuel regulates the price of bricks is dependent on locality and process of manufacture, so that it is impossible to state with any degree of accuracy any fixed figures showing the relation of fuel to the total cost. In the manufacture and burning of the common building brick, we have found that the quantity used varies from 4 cwt. to 11 cwt. per thousand, according to the clay and the amount of burning required. In the Fletton area the amount required is as low as 4 cwt. to 5 cwt., but in the other districts the average is 11 cwt. The increases in the price of coal per ton in the principal districts are shown as follows:—

	1914.	June, 1920.
London	15/-	50/-
Peterborough	5/- to 8/-	30/-
Manchester	8/6	37/-
West of England	14/9	44/8
Scotland	8/-	30/- to 37/6

Taking the average of these five districts, the increase is approximately 270 per cent.

In the case of stock bricks where ashes are taken down to the yards from London and mixed with the clay, considerably less coal is required for burning purposes, and therefore coal does not form such an important factor in the price of this class of brick. The witnesses before us were unanimously agreed that the coal that is being supplied at the present day is of greatly inferior quality to that used before the war, with the result that its calorific value has depreciated, and about 25 per cent. more is required for purposes of burning and power.

Other Causes of Increase

In addition to the large increases in transport rates, great difficulties have been experienced in procuring railway trucks for purposes of conveyance of bricks to distributing centres. Fletton bricks, for instance, should be removed in regular daily quantities, and it is therefore essential that corresponding truck accommodation should be available. Extra stacking and rehandling alone represent an additional 5 per cent. on the cost of production. Cartage rates have also shown very great increase, and the journeys made in the present eight-hour day have decreased in number as compared with a corresponding eight hours in 1914. Restarting works and reduction in output consequent upon reduction in hours worked are further important factors regulating the present prices of bricks of all classes.

The trade may be divided into two channels of distribution, namely—

(a) The direct trade.

(b) The retail trade.

The direct trade is carried on by the manufacturers or their agents direct to the builder, who may either buy ex kiln free on rail or free on board, or delivered at a railway station or wharf.

The retail trade is entirely a builders' merchant's trade, who supplies local customers with small quantities varying from 100 to a truck load. The purchaser naturally has to pay more for his goods in this section of the trade, as the builders' merchant has to add his profit, establishment charges, additional handling, storage, cartage, etc. Builders operating in the locality of brickyards usually purchase direct from the manufacturer at an ex-kiln price plus a small charge to cover assistance given in loading.

As we have already stated in our report, the brick trade as a whole has been in a state of great depression, and businesses have been worked on small profits, and in many cases at a loss. We have found that, even at the present day, when the demand is so far in excess of the supply, the profits that are being made are low in proportion to the amount of capital involved. With regard to the retail trade in bricks, witnesses representing builders' merchants have stated that the brick section of their businesses shows a considerably less profit than on other sections, and have gone so far as to say that profits were not expected on this particular branch of their business. Complaints of unjustifiable charges usually emanate from the retail section of the trade, where sales are restricted to small lots ranging from 100 to 1,000, and while recognising that there may be individual cases of profiteering in this section of the trade, we have found that generally the profits made are not unfair nor unreasonable.

Conclusions Summarised

The Committee's conclusions are summarised as follow:

(a) There are in the brick trade several associations having for their chief purpose the regulation of prices and wages.

(b) The trading discounts received by factors and distributors of bricks are not unreasonable.

(c) The profits made both by the manufacturer and the retailer are low in proportion to the amount of capital involved.

(d) Labour and fuel form such important factors in the manufacture of bricks that there is no hope of stabilisation of prices while the cost of labour and fuel continues to rise.

(e) From our investigations, it appears that if the whole average profit on the bricks used in the erection of a house under the housing scheme be eliminated the cost per cottage would not be reduced by more than £10 (ten pounds).

Correspondence

Sir Alma Tadema's Hous

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—With regard to the inquiry l W. E., Cardiff, published on page 294 your issue of September 15, a descripti of the house of Sir Alma Tadema appear in one of the Christmas numbers of t "Art Journal" somewhere about 1887 am unable to indicate the exact year). T house was at the time unfinished.

"Aero," in his interesting gossip lighthouses, infers that the "twin towers of the ruined church of St. Mary at F culver came under that category. Soı time ago, when writing a local guide, became necessary for me to look into t history of the building, and it appear that although it had long been a seama it was never a lighthouse, the appare cressets on top of the skeleton spires (t original "spiring steeples" fell dow being nothing more than wooden wi vanes.

The church is perhaps of more ar quarian interest than architectural, l there are still slight indications of Roman origin and of French influence the structure of such portions of the w front as still stand.

B. C. DEXTER

Employers Requiring Assistants

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I am glad to be able to annou that the Employment Bureau of the Ar tects' and Surveyors' Assistants' Pro sional Union has been reorganised placed in charge of a member of the exe tive, who will give personal attention to applications.

Architects, surveyors, quantity veyors, builders, and others requiring fessional or technical assistants are vited to communicate with the A.S.A.P Employment Bureau, Sanctuary Ho 33, Tothill Street, London, S.W.1, sta exactly the nature of the assistance quired and salary offered.

Every effort will be made to find suit applicants for vacancies, and it is desire of the executive that all member the union should be known as good me their work.

C. F. OVERY,
Hon. Organising Secretar

Coming Events

WEDNESDAY, OCTOBER 6.

Institution of Sanitary Engine Social Entertainment at Caxton H Westminster. 7.30 p.m.

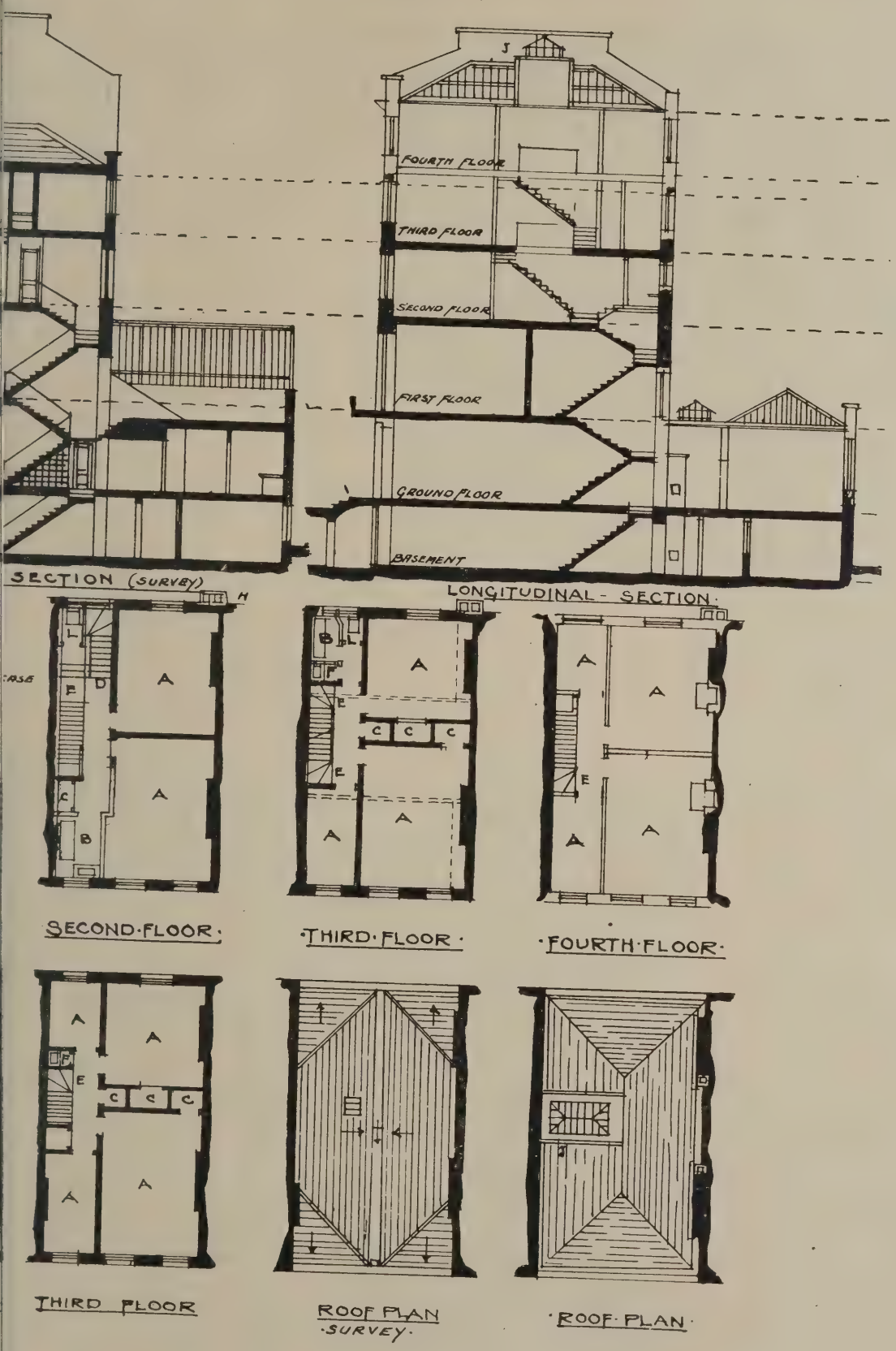
TUESDAY, OCTOBER 19.

Society of Architects Lodge of F masons. There will be an emerge meeting on Tuesday, October 19, ar regular meeting (installation) on Wed day, November 10, at the Holborn taurant. The lodge is always please see visiting "members" from o lodges, and as some potential visitors l felt a diffidence in attending when no evening dress, it should be made that they are equally welcome in mor dress.

Modern Domestic Architecture. 19.—No. 35, Mo

In the above plans and sections, which should be studied i
structura

are, London : Adaptation to Modern Requirements



on page 345, the existing walls are shown black and the outline.

Glasgow Housing Exhibition

Domestic Innovations

SEEN from the housewife's point of view, the Glasgow Health and Housing Exhibition has much to show hat is both new and interesting.

Labour saving devices of every kind are the fore, and one notices that the arious demonstrations are equally atnded by both sexes. Here in the North, omen have a very considerable say in using matters, and husbands and wives re over sketches and criticise plans, the dy displaying an amount of technical owledge that is sometimes surprising.

Heating novelties are many, among the st interesting being the Jaymil ectric Fire, and the Lawson Gas diator. The former is singularly econocal in use, combining the functions of iling ring, grille and heater, and conning only one unit per hour; while the ter supplies a long-felt want, being a table radiator that, attached to the ll-pipe by flexible tubing, can be placed ywhere at will.

Cooks, amateur and professional, will dy the various coal and gas ranges with erest, especially those shown by Stimex, kinson, and R. and A. Main. The -named firm shows a particularly active combination grate, ideal for use itchen living rooms, as it can be transned in a moment from a very efficient ker to a delightful-looking open fire-ce.

Messrs. Parkinson's All-Gas Kitchen ws the convenience of a complete gas pment, including fire, cooker, inrator, water-heater, and airing cupboard. Those who find it difficult to avoid burning in the usual type of gas oven will welcome the Stimex Stove, with its exterior burners.

STAND OF MESSRS. PINCHIN JOHNSON AND CO., LTD.

STAND OF THE BEAVER BOARD CO., LTD.

The Easiwork Hardwood Kitchen Dresser (described and illustrated on the next page), exhibited by the British Canadian Export Co., is particularly attractive, and one hopes for the day when it, or something closely resembling it, will be a feature of every kitchen. Sound and dustproof in construction, it comprises all things essential to cookery, and saves many a wearisome journey from larder to cupboard, and cupboard to sink. The kitchen and scullery cabinets on the stand of the Rex Import Co., are also worthy of attention, and will appeal particularly to the kitchenless woman, enabling her to conceal all her domestic arrangements in highly ornamental cupboards in her parlour. Electric sweepers, washers and ironers are exhibited in variety, and present laundry prices would lose their terrors were one possessed of some of the ingenious machines shown.

Cleanliness in the window regions is usually attained with some difficulty and much expense, but two contrivances shown at Glasgow should help to eliminate these. David P. Brown's Standard Simplex Window Fittings make it easy to open the ordinary sash window inwards for cleaning purposes, and render the housewife independent of the professional window cleaner, while the Victory Window Blind shown by G. Millar Marr can be detached for washing purposes with a beautiful simplicity. The latter is, we hear, being supplied extensively for housing schemes, and the value of both inventions is obvious to all who have waited for the cleaner who never comes, or surveyed the grime of years on their immovably fixed spring-blinds.

Lastly, the details of household equipment must not be forgotten. The Firth Bready Syndicate show the endless possibilities of stainless steel, from frying-

pans to fenders, and stair rods and domestic utensils that need no polishing, and are completely rustproof, will appeal to every house-proud woman.

Messrs. Braby's aluminium ware is equally attractive, and their small domestic boiler of galvanised iron will stand comfortably on any range or gas cooker, and render substantial help with the household washing. Their combined dust-bin and ash-shifter should also serve to reduce the coal bill.

If the houses of the future are equipped with but a few of the labour-saving innovations to be seen in a tour of the Exhibition, women's lives will assume an altogether new complexion, the servant problem will disappear, and home comforts be more easily attainable than they have ever yet been. E. N. B.

Other Exhibits

"Beaver Board"

The Beaver Board Co., Ltd., of 4, Southampton Row, London, exhibit Beaver Board, a pure wood fibre wall board, which may be used instead of lath and plaster and many other interior wall and ceiling finishings. Beaver Board is almost wholly a Canadian product, and consists of spruce wood fibre pressed into large panels, slightly exceeding three-sixteenths of an inch in thickness. The panels or boards are made of two widths—viz., 3 ft. and 4 ft., and of even lengths of 6, 8, 9, 10, 12, 14, and 16 ft. In structure the material is laminated, there being in all four layers. The timber which experience has shown to be the most suitable for conversion into Beaver Board is spruce, of which only selected logs are used in the mills. The finished product weighs a little over half a pound per square foot. The spruce logs are, in the course of manufacture, shredded into fibres, and these are "meshed" by patent machinery into thin sheets or plies, four of which cemented together comprise the actual boards or panels. These are seasoned by a drying process, and afterwards both the front and back surfaces receive single and double coatings respectively, of patent sizing, so that when the front is painted each side is equally covered and protected. Beaver Board may be employed in a variety of ways and in all positions in which architects have been accustomed to use lath and plaster, such as in finishing walls, partitions, and ceilings.

One of the most important purposes to which Beaver Board may be applied is in covering old plastered surfaces and, where these are cracked, the advantage of permanently hiding such disfigurements is obvious. Architects should find Beaver Board a very useful material, not only where rapidity of construction is of vital importance, but in many situations in which this consideration is less urgent. Over two thousand semi-detached bungalows for the Ministry of Munitions, as well as buildings for the Admiralty, the War Office, and the Office of Works, have been finished internally with this material, which has also been much employed in the construction of private houses.

"Edina" Mixer

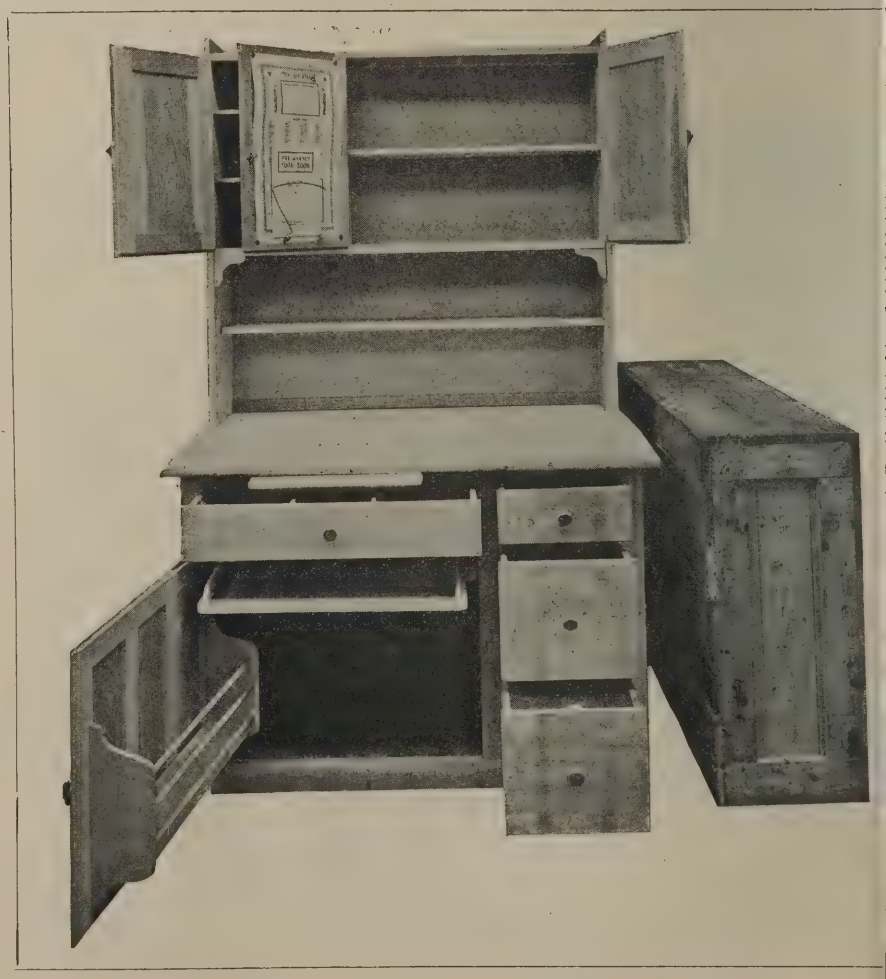
In the notice of this exhibit, in the issue of September 15, page 303, it should have been stated that the mixer is for concrete only. In the sixth line of the paragraph the word "trunk" should be *truck*.

"Easiwork" Kitchen Dresser

Messrs. G. E. W. Crowe, agent for British-Canadian Export Co., Ltd., 83, Pall Mall, London, S.W., exhibit the "Easiwork" mass production kitchen dresser. This is a mass-production ready-cut dresser which is supplied for housing schemes and builders. It is made in Canadian birch and Canadian beech, well seasoned. The table top is made of Canadian basswood, which is specially suitable for keeping in hygienic condition. This dresser combines practically every recommendation made by the Women's Advisory Committee on Housing and Reconstruction. In a compact space there is a place for every article usually kept in the kitchen. The upper part is provided with three hardwood panel doors, which present an attractive appearance, and enables dishes, foodstuffs, etc., to be kept away from dust. Below the door and above the table is a dresser-shelf where canisters can be kept, or, if it is desired, cups and dishes can be displayed. Below the table is a roomy pot cupboard lined with zinc, a drawer for cutlery, a drawer for linen, a tin-lined drawer for flour, tea, etc., and a tin-lined drawer for bread, cakes, etc.; also in the lower section is provided a hardwood chopping-board and a pastry-board. All drawers are made with middle runners and dove-tailed ends.

Heating and Sanitation

In addition to the model all-gas house exhibited by the British Commercial Gas Association and described in our issue of September 15, the Association have also a full-sized all-gas kitchen, which affo evidence of the cleanliness and efficie of the many modern appliances desig for the convenience, comfort, and econo of the houses of every class of the comr nity. Now that the need for better ho ing accommodation is a matter of s general concern, a view of the most mod improvements is particularly welco The kitchen is supplied with a gas cool above which is a hot-plate rack, a gas f a gas water heater, a refuse destruc and a gas wash copper; and there moreover, attendants present to explai visitors the advantages of these appliar and the ease with which they may worked. By simply turning on a tap the striking of a match breakfast is coo and the house is warm! Besides a sav of labour, the Association also claim there is also a saving in expense; jus the gas cooker, gas water heater, and fire come into action in an instant, when the meal is cooked, the water hea and the room well warmed the gas is stantly lowered and the waste of fue avoided. The moment that heat is longer needed for any purpose the gas be turned off altogether. But the hea of water and the cooking of food are the only things made easy in this all kitchen; the gas-heated wash copper is other valuable improvement. It is a g convenience for boiling such lau articles as are washed at home, or at for boiling eatables. It is fitted with a which carries the steam into the kitch flue, and also with a tap which serve draw off the dirty water when the wor hand is finished, thus saving the ho



THE "EASIWORK" KITCHEN DRESSER.

...ured Drawings. 4.—Dodo House, Chichester

Measured and Drawn by G. Norburn

Dodo House, Chichester, which of course gets its name from the quaint birds surmounting its gateposts, is commonly attributed to Wren, but with doubtful authenticity. Certainly it is somewhat in the Wren manner; but the master had disciples, and on the internal evidence we should hesitate to ascribe the work to Wren himself.

wife from the necessity of baling out gallons of greasy water. Yet another installation is a small gas refuse destructor which will burn everything from waste paper to vegetable refuse, and is claimed to leave scarcely a handful of ashes every day. A most attractive feature in the kitchen is a drying cupboard, heated by coils of pipes from the gas water heater, through which hot water is carried to every tap in the house. It must not be supposed that these appliances can only be installed in a new house. They can be arranged to go into any size or shape of kitchen, and need not necessarily be joined together while in the kitchen, in which some of the appliances are already installed, the others can usually be added without difficulty. To every housewife anxious to reduce her labour and to increase the cleanliness and comfort of her home, this feature of the exhibition must prove of outstanding interest. Architects and builders, too, ought to make a special visit to the stand.

The exhibits of Messrs. R. and A. Main, Ltd., of Gothic Works, Falkirk, include the following: Gas cookers, gas fires, boilers and water heaters, the "Mecca" combination grate, which gives a copious supply of hot water, and an efficient roasting and baking oven of ample proportion; "Astra" gas mantel register, the new "Main" gas iron shown in operation, the "Main" new "Civic" range, the "Main" "St. Magnus" gas-heated steam radiator, the "Nonpareil" gas-baking oven, and the "Poet" series of new gas and coal interiors, all fitted with the latest "Main" novelties.

On the stand of G. Millar Marr, of 75, Buchanan Street, Glasgow, will be found an exhibit of "Hue" Fires, and demonstrations are given of their merits as a coal-saving device. The "Victory" window grate, which created such interest at the 1919 Housing and Health Exhibition, is also shown, and all visitors are invited to call at this stand and see how easily it can be fitted to any window and how easily it will operate. This blind is being supplied to the Government for housing schemes.

Messrs. Gillespies, Ltd., of Chattan Ironworks, Bonnybridge, specialists in the manufacture of cast-iron goods for housing schemes, show at their stand a selection of their up-to-date patterns, including their "Chattan-Premier" low-fire range, No. 34 interior with h.p. boiler, No. 15 hob tile register, Nos. 106, 108, 120, 121 mantel registers, "Chattan-Dover" stove, "Chattan-Primrose" stove, "Chattan-Sloburn" with H.W. coil, portable coppers for coal and gas, wood mantels, tile hearths, surrounds, etc. Messrs. Gillespies, Ltd., also show their "Chattan-Premier" range and low-pressure hot-water system, as well as an interior and complete hot-water system (low pressure), in operation.

Ironmongery

When it is considered how many things, apart from stone and lime, are necessary nowadays to the building and equipment of a house, the part to be played by an organisation like that of Messrs. Frederick Gray and Co., Ltd., and the influence it would have on solving the housing problem can be appreciated. Outside the building there are gutters and downpipes, guttering, ridging, ventilators, chimneys and cowls, roofing materials, sashes and window frames, skylights, fanlights, manhole covers, fencing, etc. Inside the house there is, say, the plumbing question, including such items as piping, cisterns, tanks, hot and cold water systems, baths, wash basins, wash-house boilers and tubs, bells, etc., to mention a few of the fittings. There are also many movable items necessary to the complete home, such as pails, pots, and pans, dustbins, sieves and riddles; garden equipment, such as railings, wire netting, fencing, spades and shovels, seats, archways, barrels, barrows, baskets, etc. The Braby organisation has five works, covering over thirty-five acres, and including fifteen departments. In every one of its many departments special emphasis has been laid on the production of everything and anything pertaining to the building or equipment of a house, and Messrs. Braby claim to have an ample supply of the materials and appliances required in successfully and expeditiously carrying through any housing scheme on whatever scale. Messrs. Braby are ready to assist either public authorities, companies, or individuals to speed the building of houses. A special department has been organised for this purpose, and all interested are invited to write, stating their requirements and needs, when they can rest assured that their enquiry will have prompt and satisfactory attention.

Window Fittings

The "Standard Methods Simplex" window fittings are shown by Messrs. David P. Brown and Co., of Glasgow. These window fittings have been applied to a great many well-known buildings in and around Glasgow, including the Central Fire Brigade Station and houses, the McAlpin Nursing Home, the Samaritan Hospital, Parish Council Chambers, Head Offices, Glasgow Corporation Tramways, Govan Depot Glasgow Corporation Tramways, North British Hotel, Royal Hotel, Burlington House, and convalescent homes, Dunoon. These fittings are claimed to be giving every satisfaction in hundreds of tenements, scores of business blocks, dozens of schools, and have been applied in the homes of many prominent citizens.

Stainless Steel

Specimens of stainless steel are exhibited at the stand of the Firth-Brearley Stainless Steel Syndicate, Ltd., of Norfolk Works, Sheffield. The outstanding property claimed for stainless steel is its ability to resist rust, corrosion, and staining. This rust-resisting property is an intrinsic virtue of the metal itself, and the firm state that stainless steel is capable of being hardened, and that, in fact, it must be hardened to a greater or less extent in order to develop to the full its rust-resisting properties. The specimens shown illustrate the tests which have been carried out with regard to the corrosion effects of heat and mechanical properties, fractures at varying temperatures of stainless steel. Samples are also shown in nitric acid, vinegar, and salt water.

Weekly Housing Report

New housing schemes submitted to the Ministry of Health during the week ended September 18 numbered 61, bringing the total number of schemes submitted to 11,109, comprising about 74,280 acres. The schemes approved now number 7,993, and comprise about 54,137 acres. Fifty-one lay-out schemes were submitted, and 80 approved during the week, bringing the total number of lay-outs submitted to 6.104, and the number approved to 5,490.

House plans representing 898 houses were submitted and plans for 1,275 houses approved. The total number of houses represented in all the plans now submitted is 257,184, and in the plans approved 241,294. During the week tenders were submitted for 1,146 houses. Tenders for 1,040 were approved, bringing the total number of houses in tenders submitted to 157,872, and in tenders approved to 144,615. Contracts have been signed for 104,287 houses.

The District Valuers of the Inland Revenue Valuation Office had by the end of August valued 14,669 housing sites covering an area of 85,987 acres. They have also undertaken and completed negotiations on behalf of the local authorities for the purchase of sites in 4,525 cases, relating to an area of 20,387 acres. The average price per acre finally agreed was £190, a reduction of £71 from the price originally asked by the sellers or provisionally agreed to by the local authorities.

Up to September 21 1,507 privately built houses, eligible for the Government grant of £260 to £230, had been completed, and payment of £320,356 had been made in respect of them. Up to September 17, "Certificate A," authorising private builders to proceed with houses eligible for the grant, had been issued in respect of 19,706 houses. The total commitment represented by these houses was £4,773,252.

Sanitation and Housing*

By Sir J. Crichton-Browne, M.D.

In spite of all obstacles, shortage of materials and transport, and the natural but mistaken reluctance of the building trades to permit dilution of their ranks by unskilled men, the housing problem will be solved, and we shall have a great eruption of houses over the land in the next few years—of houses not free from shortcomings and defects, yet in all structural and sanitary respects superior to the houses available to the same class of our people in the past, and conformable to the higher standard of living to which they have become accustomed. But, having got our houses, we shall have to teach the people how to live in them. Instinct in household economy doesn't reach beyond the wigwam. Culture is essential. The slum is often created by the sluggard and a decent house converted into a hovel by a slovenly and ignorant tenant. During the industrial period in England our working classes have to a large extent, owing to the nature of their occupation, lost touch of those domestic arts on which the comfort, happiness, refinement, and healthfulness of life so much depend, and in these arts they must now be reinstructed.

Our schools must bestow much more attention on them than they have hitherto done, even at the sacrifice of a little prosody and syntax. Our health-visitors must give practical demonstrations in them, and, above all, our women must be given time to become expert in them.

But the housing problem in Margate has certain special features of its own, for a large proportion of the houses are used as lodging or boarding houses, and consider-

*Extracts from Sir James Crichton-Browne's Presidential Address to the annual conference of the Sanitary Inspectors' Association, held at Margate.

ing the enormous influx of visitors to which it is subject, there must be, for some weeks in the season, very serious overcrowding. This is no doubt mitigated by the fact that a majority of the visitors, whenever the weather permits, spend their time in that sumptuous and well-ventilated drawing-room, the sea-front, or in excursions by land and sea. Still, the overcrowding is not without its effect, for it is noticed that many of the children attending the elementary schools are run down and neglected during a part of the year owing to the inability of their parents to look after them and cater for visitors at the same time.

Margate is, I understand, actively grappling with the housing question and arranging to provide houses to meet the existing shortage and to replace unfit houses, of which there are still a considerable number.

In the construction of the new houses contemplated in Margate architectural ingenuity should be invoked to devise a type of house to meet the special requirements of the town. The run of Margate houses should be contrived a double debt to pay—to be a permanent residence for the family and a hostel for visitors in summer and autumn. An ordinary dwelling-house of the stereotyped pattern does not lend itself to this two-fold purpose, but a house might be planned that would, at a slightly increased cost, allow of the letting of lodgings without the retreat of the aborigines into subterranean caves, back stairs, cupboards or lavatories, and that would greatly reduce the domestic drudgery that a lodging-house as at present constructed entails.

But beyond housing Margate is still under some sanitary obligations. It must proceed with the paving of yards that still remain unpaved, for Dr. McCombe thinks that these yards are in their present state responsible in some measure for diphtheria by causing sore throat and diminishing resistance in children who get wet feet while playing about in them. It must provide a central municipal abattoir, so that all animals killed for food may be submitted to skilled inspection; and it must also provide—and this seems the most pressing matter—a tuberculosis dispensary, where early detection of the disease can be made, where treatment can be at once initiated, and where cases can be sorted out for such subsequent treatment as may be deemed advisable. The dispensary is our first line of defence against tuberculosis when it has gained a foothold. The usual proportion of cases of tuberculosis originate in Margate, and a considerable number are imported, as persons suffering from the disease in all its different stages come here in the hope of benefiting by its climatic conditions.

And in resisting the attacks of tuberculosis it is practical sanitation in all its branches that is to be depended on. Above all, it is by improved housing that we can reduce the ravages of tuberculosis. It is a disease of civilisation. Non-existent in savage races or in wandering tribes in those parts of the globe which lie beyond the great commercial routes, it shows itself in all settled social communities, and flourishes wherever human beings are compressed and huddled together, and just in proportion to the closeness of the contact. It is in aggregations of overcrowded houses, where free movement of the air is impossible, and where, owing to poverty or faulty conditions, strict cleanliness is impracticable, that it makes its chosen home and spreads with facility. It battens on the physical deterioration which indoor life and unwholesome working conditions have brought about during the industrial epoch. It loves an atmosphere of gloom, and where the light of Heaven penetrates it hides its diminished head. It is by the removal of slums, by sound town-planning, so that residential and manufacturing areas may be kept as much as possible apart, and so that ultimately there shall be a house for every family, and a room for every person, that we shall out-flank tuberculosis and compel its retreat.

In connection with any scheme of world-wide sanitation, one subject that must receive earnest consideration is industrial hygiene, which has been brought to the front by the war. It was then discovered that industrial efficiency depends to a much larger extent than had been previously surmised on the conditions under which work is carried on, and as these conditions vary vastly in different countries a comparative study of them cannot fail to afford valuable insight. Attention must be directed to the construction, lighting, and ventilation of factories and workshops, and to the arrangements made in them for the comfort and convenience of the workers, and, above all, to the duration of working hours, which is a physiological problem—a problem of fatigue.

But the spirit which animated Mr. Dee has not perished with him. It was contagious, and survives amongst you, and will speed your Association on its way. I look forward to the future of your Association with complete confidence. I know the stuff of which it is composed, and say advisedly that there is no body of public servants in this country who are more intelligently devoted to their duties or are doing more useful work. New claims are certain to be made on you—theatres and picture houses are, I see—not a moment too soon—to be put under your supervision—but whatever your obligations may be you will, I am sure, rise to the occasion. In the triumphs of peace—not less renowned than war—that are in store for us, the Sanitary Inspectors' Association will play no inconspicuous part.

Glasgow Housing Schemes

The housing schemes of the Glasgow Corporation provide for the erection of 4613 houses at an estimated aggregate expenditure of £4,300,000. There are altogether fifteen schemes on hand, though the schedules in two instances have not yet been prepared. The dwelling-houses in course of erection number 1547, and these are estimated to cost £1,350,000. In addition tenders have been received for the building of other 2064 houses, and the aggregate expenditure in this connection is estimated at £2,250,000. For prospective schemes, tenders for which have not yet been invited, a further sum of £700,000 will be involved. These estimates exclude the cost of sites, but include expenditure on roads and sewers.

Particulars supplied by Mr. Robert W. Horn, chief architect to the Corporation, show, according to the "Glasgow Herald," that the largest of the municipal housing enterprises is that at Mosspark, an extensive area in the immediate neighbourhood of Bellahouston Park, by which, in fact, it is bounded on the north-east side. The Glasgow and South-Western Railway (Canal) line runs along the southern boundary of the area, which extends westwards to Corkerhill Road, an to Dumbreck Road on the east.

There are 1502 houses included in th scheme, 504 being of the "flat" type an the remainder—practically 1000—cottag of various sizes. The buildings containir the flats will be two-storey blocks. Eac block will consist of four three-apartme dwellings, with main door, scullery, bat room, larder, coal cellar, and garden pl in front or rear for each tenant. Tl houses will all be lit with electric light, ar in the scullery of each an electric pl and switch will be provided for ironir and cooking purposes.

The cottage dwellings are design chiefly in blocks of two houses, a sm proportion being made up in four-hou blocks. They comprise—even the small class of them—a living room, sculle bathroom, larder, and coalhouse on t ground floor, and two bedrooms a ample press accommodation on the up floor. A private gateway to garden a house is provided for each tenant. Oth types of the houses in this area are ser detached cottages of four and five apa ments, a parlour being an additional co venience in these dwellings. The lar houses will contain three bedrooms an store for a perambulator.

It is noteworthy that, so far as the b room floors are concerned, the Corpo tion have exceeded the instructions of Board of Health by making the height the ceilings 8 ft. 6 in., instead of 8 ft. T increased cost will, of course, be borne the Corporation. Kitchen ranges will be fitted into any of the houses. T living-rooms are to be fitted with inte grates. A copper boiler behind the gr will supply hot water to a copper tank the scullery. It is proposed to build Mosspark area houses of brick, pa faced with red terra cotta and partly v rough-cast. The roofing will be sla but the Corporation may decide to use tiles for certain parts, to lend a note colour to the scheme. A number of o spaces have been designed, and it is posed to utilise low-lying ground at extreme east as a model yacht pc Several sites have been left available the erection of public buildings—h schools, or churches.

Work is proceeding at the Coplav housing scheme. Here three-storey t ments, providing 125 dwellings of tl and four apartments, are in course erection. These houses, it is expec will be ready for occupation early month. Five experimental blocks of bu ings, each containing twenty house three apartments, are being procee with at Gilshochhill. The outer wall each block are built of different mat from those of the others.

In addition, a scheme that is now i advanced stage provides for 123 r houses in this area. There are schemes in progress at Kennyhill Riddrie. The houses are of various ty and number 1038. A scheme rece formulated provides 240 houses, buil two-storey blocks, for the Green (Govan) area. Work has not yet begu the Cathcart Road scheme, for w tenders for the erection of three-st tenements, containing 114 houses, been approved. There are also in pro schemes providing 448 tenement hous Craigton, thirty-six tenement house Pollokshaws, 264 cottages and house Drumoyne, 648 at Blackhill, sixty-eig Temple, and 230 in Hawthorn St Paisley Road.

IMPORTANT TO ARCHITECTS

You can get ahead AT ONCE WITHOUT DELAY by adopting Reinforced Concrete on the Kahn System

Because we have a good stock just now of all sections of our reinforcements and a highly expert staff of designers

Therefore, write us to-day and we will explain what can be done with your building

The Kahn System of reinforcement is the most extensively used in the world :: ::

90% of modern multi-storey factories are being built to-day in Reinforced Concrete :: ::

THE
TRUSSED CONCRETE STEEL CO. LTD.
52 Truscon House, Cranley Gardens, South Kensington, S.W.7

Works: TRAFFORD PARK, MANCHESTER

H MUNDY

REDPATH BROWN & Co. Ltd.

CONSTRUCTIONAL ENGINEERS

WORKS AND STOCKYARDS

LONDON
Riverside Works,
East Greenwich S.E.

MANCHESTER
Trafford Park.

BIRMINGHAM
Office 47, Temple Row.

EDINBURGH
St. Andrew Steel Works.

NEWCASTLE-ON-TYNE
Milburn House.

GLASGOW
Pinkston,
Office 19 Waterloo St.

London City Office :- 3, LAURENCE POUNTNEY HILL E.C.4

The Week's News

(Concluded from page 339)

Houses at Ilford.

ıbout fifty houses at Barkingside, lt by the Ilford U.D.C., will shortly completed.

Bognor Housing Scheme.

'he first sod has been cut in connection ı the fifty-four houses being built by U.D.C.

Penryn Housing.

he inaugural stone-laying of the ryn housing scheme has taken place he Brown's Hill site.

Selby Housing Schemes.

he U.D.C. have resolved to pur-se sites for housing in the parishes of ton and Hirst Courtney.

Housing at Devizes.

ıe U.D.C. have made application to Works Loan Committee for £30,000 ırry on the housing scheme.

Housing at Battle.

ıe Ministry of Health have sanctioned an of £1,350 in connection with the iisition of the Wellington Field site.

Housing at Upton.

ork has been commenced on the wing sites: Upton-on-Severn, Ripple, Croome, Hanley Swan, and Callow

The late Mr. W. T. Jones.

. William T. Jones, of Newport, er, who died on March 17 last, left e of the gross value of £41,656, with ersonalty £36,417.

Stafford and Housing.

e Stafford R.D.C, have received the ion of the Ministry of Health to a of £11,000 for the erection of houses ockton, Weston, and Haughton.

Housing at Chippenham.

e R.D.C. have decided to apply for a of £520 to purchase a site of four of land in Corsham in connection the Government housing scheme.

Patterdown Sewerage Works.

e Chippenham T.C. have decided to to the Ministry of Health for sanc-o a loan of £3,500 for alterations and ons to Patterdown sewerage works.

Hebburn Housing Schemes.

bburn U.D.C. have received sanction oan of £253,000 for the erection of s, £9,300 for street works, and £2,800 wers in connection with the housing e.

Truro Housing.

Truro R.D.C. have accepted the of Mr. W. M. Lugg, of Camborne, e erection of eight houses at St. s at £972 each, subject to the ap-of the Ministry of Health.

Cardiff Building Guild.

Cardiff Building Guild have de-o link up with the National Build-uild movement. The guild will be ented at the national conference to l in Manchester on October 9.

Bourne and Swimming Baths.

question of erecting swimming ıt Bourne has been raised at a meet-f the U.D.C. by a councillor, rged that the Council should take o secure a site. It was stated the time was not considered suitable to erect baths, in view of the price of material, etc., and the urgent need of houses. Eventually the matter was referred to a special committee.

Houghton Housing Scheme.

The Ministry of Health have sanctioned the borrowing of £350,000 for the erection of dwellings, £6,000 for land, £26,000 for street works, and £4,000 for sewerage works.

Nottingham Housing.

Thirty-four houses are now tenanted, and as many more are expected to be completed in another month. In all, 1,038 houses have been contracted for to date, and the cost, roughly, is in the neighbourhood of one million pounds.

Yorkshire Housing Progress.

Yorkshire has now 677 completed houses. Sheffield has built 202, Doncaster and district ninety-six, Leeds twenty-two, and Huddersfield twenty. Birmingham is now in a leading position, with 288 houses ready for occupation.

Rotherham Housing.

The Rotherham R.D.C. have decided to accept tenders for the erection of houses and for the making and laying of roads and sewers at Brampton, Bierlow, as follows:—Type "A" house, £870 per house: type "B" house, £970 per house; roads and sewers, £3,500.

A Correction.

Apropos the description published in our last issue of Victory House, Kingsway, we should have stated that Messrs. Nettlefold and Sons, Ltd., of 54, High Holborn, London, W.C., supplied the locks and general builders' ironmongery throughout the building, and more particularly the handsome, heavy, bronze door panels and pataires which are an outstanding feature of the doors.

Leith Housing Scheme.

A start has been made with the Leith housing scheme, the first sod being cut preliminary to the laying of the foundations of tenements on the north side of Ferry Road and immediately to the west of Chancelot Terrace. These tenements form a part of the whole of the Ferry Road section of the Leith housing scheme which aims at providing 180 houses altogether.

Foleshill War Memorial.

In the Parish of St. Paul, Foleshill, Coventry, a cross in Portland stone which has been erected as a memorial to the men of the parish who fell in the War, has been dedicated. The cross, which stands in the churchyard, has been carried out by the Bromsgrove Guild, Bromsgrove, Worcestershire. In addition to the cross, an oak reredos bearing the names of the fallen has been placed in the Lady-chapel, together with other furnishings, all of which have been executed by the Bromsgrove Guild.

Building Trade Wages.

A demand has been made on behalf of all men engaged in the building trade in the North-western Area for a further increase of 2d. per hour. If granted, this will bring the wages of craftsmen up to 2s. 6d. per hour and labourers to 2s. 2d., with an extra half-penny per hour to a certain class of labourers. In June last the men received an all-round advance of 4d. per hour. In June, 1914, the wages of men engaged in the building trade in Manchester, the highest paid district in the North-western Area with the exception of Liverpool and Birkenhead, were as follows:—Masons, bricklayers, joiners, sawyers and machinists, 10½d. per hour; plasterers, 11d. per hour; slaters and painters, 10½d. per hour; and plumbers, 10d. Labourers received from 6½d. to 8d. per hour, whilst in many of the surrounding towns, the wages of the labourers ranged from 5½d. to 6½d. per hour.

Housing in Camberwell.

It is expected that some of the houses now being erected for the Borough of Camberwell will be ready for occupation early in October, and that most of them will be roofed by Christmas. Labour has been obtained as far as possible through the local Trades Council, who have also agreed to the use of disabled ex-soldiers as learners in the proportion of one to seven skilled operatives.

H.A.C. War Memorials.

The Court of Assistants of the Honourable Artillery Company has decided that the regimental war memorial shall be a stained glass window on the staircase at the headquarters of the Company in City Road, London. One of the panels of the Borough of Finsbury war memorial, which is to be placed near the Finsbury Town Hall, will contain a representation in relief of the forcing of the river Piave, at Papadopoli, in October, 1918, by the 2nd Battalion, H.A.C., whose headquarters are in the borough.

Blackwell Housing Scheme.

The Ministry of Health has sanctioned the borrowing by the Blackwell R.D.C. of £23,574 for the purchase of building sites, £200,000 for the erection of working-class dwellings, and a further £10,200 for the construction of streets. The Council have decided that, instead of twenty-five parlour and twenty-five non-parlour houses in Warren Terrace, Shirebrook, all the houses should be of the parlour type, it being pointed out that there would be only £80 difference in the cost of the types.

Mansfield and Luxury Building.

In reply to the Housing Commissioner, who asked what steps the Town Council have taken to erect the remainder of the houses needed, the Housing and Town Planning Committee have passed a resolution informing the Commissioner that, in their opinion, "all luxury building and unnecessary building for business purposes should be suspended, and labour substituted for meeting housing needs, and that until this is done, it will be impossible to arrange for the erection of more houses that at present agreed upon."

Housing at Slaithwaite.

The Slaithwaite U.D.C. have accepted tenders for twenty-four houses of varying types, subject to the approval of the Housing Commissioner, as follows: Four houses at £1,216 per house; six at £1,030 per house; four at £1,171 per house; two at £1,060 per house; and eight at £970 per house. The variation in the cost is according to the size of the house and to the fact that some are parlour houses, some scullery houses, and some have cellars. All the houses have three bedrooms and bathroom, and are to be stone-built.

Trade and Craft

Ferrolithic.

This well-known floor hardener is the subject of a very instructive and useful booklet, which the proprietors—Messrs. Building Products, Ltd.—have recently published for the information of architects and engineers. Ferrolithic is described as a scientifically produced metallic preparation in powder form, which readily amalgamates with cement concrete, and by virtue of its hardening and binding properties definitely increases its mechanical strength. In the course of manufacture, the author goes on to say, the various processes through which it passes are subjected to the most thorough and methodical inspection, resulting in a uniform product free from any impurities likely to affect its hardening qualities. In colour, the material is a reddish grey, and when incorporated with the concrete imparts a warm effect, and is moreover very serviceable. The booklet draws attention to the very frequent crumbling and powdering of the surfaces of concrete or cement-finished floors, as a result of the effects of traffic, and shows how these evils may be entirely abolished, and a dense wearproof floor produced, by the application of Ferrolithic.

Following these preliminary considerations, much interesting information is given on (a) how it should be used, (b) where it should be used, (c) the results obtained by its use, and (d) its cost. Architects and engineers will find on pages 7—13 of the booklet no fewer than four specifications, which have been drawn up with the most obvious care and attention to detail. Two of these relate to the hardening, water-proofing, and oil-proofing of floors for factories, office buildings, hospitals, and dwelling houses, the third describes the rendering of walls and floors of tanks so as to make them waterproof and oilproof, while the fourth is devoted to the re-topping or repairing of existing concrete floors in order to produce dense hard-wearing surfaces. Specification No. 1 is illustrated with an explanatory diagram, which shows the method recommended of laying alternate squares on one day and the remainder on the succeeding day. Some general hints on the use of Ferrolithic, under the headings of mixings, application, sprinkling, and care of topping, are also given. On the whole, the information and data contained in this well-produced publication should be of the greatest assistance to all those engaged in concrete construction.

Robt. Ingham Clark and Co., Ltd.

Messrs. Robt. Ingham Clark and Co., Ltd., manufacturers of Britannia brand varnishes and enamels, have just held their first post-war convention of representatives at West Ham Abbey.

The chairman of the company, Mr. F. W. F. Clark, opened the proceedings with an address of welcome, during the course of which he referred to the recent tour of the world which he had undertaken to gain first-hand information as to the conditions prevailing in the various branches and agencies of the company abroad. He thanked the staff for the excellent way in which the business of the company had been conducted during his absence.

Mr. R. H. I. Clark then gave an interesting and instructive address concerning the products of the company abroad, and said that going West to America, and thence to Honolulu, Fiji, New Zealand, Australia, and on the return journey via Colombo, he had always heard the same report concerning Britannia brand materials, namely, "that they represented the hall mark of sterling quality." In Auckland, New Zealand, he was shown a door which had been finished with Britannia brand varnishes twenty-seven years before. It had not been touched since, but the varnish, he said, was as good as the day on which it was applied.

After lunch the new factories in course of erection were inspected, after which a tour of the works was made. In the laboratories practical demonstrations were given showing the care exercised in the solution of raw materials and in testing the finished products before despatch. The efficiency of Britannia paint remover was tested, and as a result nine coats of old paint were removed with one application after the material had been allowed to react for about twenty minutes.

The second day of the convention was devoted to a discussion of various problems connected with the sales organisation, including advertising and various forms of sales promotion work.

The last day was devoted to questions relating to internal organisation, the method of handling customers' orders being fully explained.

Cooking by Electricity.

On the occasion of the recent opening of the new showroom of the Jackson Electric Stove Company, Ltd., at 143, Sloane Street, S.W.1, an electrically cooked lunch—to which the directors had invited representatives of the technical Press—served the double purpose of demonstrating in a very practical manner the utility of electricity as a means of cooking and the high efficiency of the company's apparatus. The repeated experiments which have paved the way to the attainment of the firm's present position in this particular field of electrical development were dealt with at the conclusion of the lun by Mr. F. H. Williams, the managi director, in an interesting review of t company's continuous efforts to reach p fection, ever since its formation ten ye ago. Mr. W. A. Gillott, A.M.I.E.E., t sales engineer, in outlining the futu policy of the firm, spoke confidently of immediate prospects, and based his pectations on the widespread acceptai on the part of the public at large of el trical cookery as a commercial propo tion.

In his reference to the valuable pion work carried out by the company, Mr. W. Beauchamp, manager and secretary the Electrical Development Associati mentioned that this was pursued des adverse criticism, and in the face of v great discouragement.

The showroom, which is situated on ground floor, is fitted out with panelling, and contains a large numbe the company's apparatus, ranging fro small toaster to a cooker suitable twenty-five to thirty persons, and fro dainty kettle to a massive armour-bri fire. Behind the showroom is a la white-tiled demonstration kitchen in wl is installed an assortment of cook varying in size from those suitable for or three persons to the much la models, of which a great number are daily use in various parts of the coun Other interesting specialities to be fo in this demonstration kitchen are w. boilers designed expressly for the "electric" house and housing scher bath-water heaters, embodying the la improvements, as well as hot cupbo and coffee urns.

The fullest use may be made of facilities afforded by the showroom kitchens for becoming acquainted at hand with the appliances, and anyone siring practical information regar electric cooking may see this being in the basement kitchen, where the c staff is catered for daily by the compa demonstrator.

THE NEW SHOWROOM (WITH DEMONSTRATION KITCHEN IN THE REAR) OF THE JACKSON ELECTRIC STOVE COMPANY, LTD.

EXPANDED METAL

FOR COTTAGE AND HOUSE CONSTRUCTION.

TIMBER FRAME COTTAGES, SCARBOROUGH.
Expanded Metal Lathing Used for External and Internal Plaster Work.
Contractor—F. W. Plaxton, Scarborough.

THE

EXPANDED METAL COMPANY, LIMITED

Head Office:

YORK MANSION, York Street, WESTMINSTER, London, S.W.1

(To which address enquiries should be sent.)

Works:

WEST HARTLEPOOL.

(To which address orders should be sent.)

SPECIALITIES.

Expanded Steel Sheet Reinforcement for Concrete.

"Exmet" Reinforcement for Brickwork.

Expanded Metal Lathings for Plaster-work.

Steel Wall-ties with split ends.

SEMI-DETACHED HOUSES, WEST DERBY, LIVERPOOL.
Hollow Walls of Pre-cast Expanded Steel-Concrete Panels, threaded in situ on vertical rods at their ends.
By Panels, Ltd., London.

CONCRETE-BLOCK COTTAGES, EPSOM, SURREY.
Expanded Steel-Concrete Flat Roofing.
Builders—Messrs. H. H. & F. Roll, Epsom.

Patentees & Manufacturers of EXPANDED METAL.

Engineers for
FIRE-RESISTING CONSTRUCTION,
STRUCTURAL STEELWORK,
And all forms of
REINFORCED CONCRETE WORK.

Write for
DESIGNS, ESTIMATES,
SAMPLES, PRICES, ETC.

CONTENTS.

Edited by PROFESSOR A. E. RICHARDSON, F.R.I.B.A.

Is the Industrial System Impossible? 365

Gloomy Paris; The Art of E. A. Rickards; House Building at Brighton; Costly Cottages; Town Planning Devil's Dyke 366

Architectural Causerie: Scottish Impressions. By Aero 367

The Week's News 368, 389

Modern Church Building and Furnishing. By R. M. Butler, M.R.I.A., F.R.I.B.A. 369

"Homes on One Floor." By Herbert Freyberg, F.S.Arc., F.S.I., Dip. San. Sci. 373

R.I.B.A. Examination Results ... 374

Correspondence 374

Civic Survey Exhibition 374

Low Buildings or "Skyscrapers" ... 374

Enquiries Answered 377

Scientific and Industrial Research ... 378

The Paris "World Market" ... 378

Competition News 383

Weekly Housing Report 384

Obituary 384

Town Planning Conference at Bath 387

Coming Events 387

South Africa and Electrical Supplies 387

British Industries Fairs 387

Glasgow Housing Exhibition ... 388

Trade and Craft 388

Bristol Housing Exhibition 388

Housing at Liverpool 390

Current Prices of Materials ... ... xvii.

Complete List of Contracts Open xx., xxii.

ILLUSTRATIONS:

Sir John Hawkshaw 363

English Renaissance Architecture. 4.—The Tower of St. Magnus the Martyr, London Bridge. Sir Christopher Wren, Architect 364

Altar Frontal in St. Chad's Church, Longsdon, Staffordshire. Designed by the Late Gerald C. Horsley 369

Modern Ecclesiastical Architecture. 10. — Holy Trinity Church, Chelsea. The Late J. D. Sedding, Architect ... 371

"Homes on One Floor" in Chelsea 37

Current Architecture. 43.—The Board Room, New Central Offices of the Metropolitan Water Board, Rosebery Avenue, London. H. Austen Hall, F.R.I.B.A., Architect ... 3

Foundations in Clay Subsoils ... 3

Measured Drawings. 5.—Doorway to the Church of Santa Maria Della Grazie, Brescia, Italy. Measured and Drawn by W. D. Foster ... 380, 3

Hillhead High School Competition: Bernard Street Supplementary School 3

Current Architecture 44.—Doorway to Board Room in the Metropolitan Water Board's New Offices, Rosebery Avenue, London. H. Austen Hall, F.R.I.B.A., Architect 3

Glasgow Housing Exhibition: Stand of Messrs. Belfrage and Bentley 3

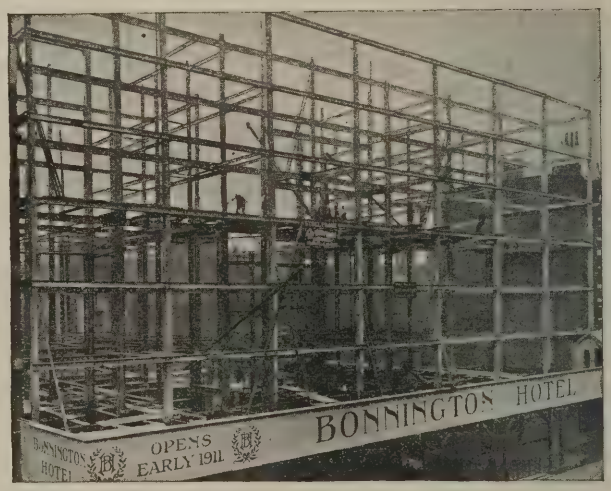
Garston Housing Scheme: A Pair of Houses nearing Completion 3

DAWNAY DEFINITIONS—4.

SERVICE

SERVICE, as we offer it to you, means the closest attention to detail, rigid adherence to promised delivery dates, and all those things which when backed up by perfect material produce the perfect reason for you to send us your enquiries for constructional material.

STOCKS OF British Standard Sections in Joists, Channels, Angles, Tees, Flats, etc.



ARCHIBALD D. DAWNAY AND SONS, Limited.

Telephones: Battersea, 1094 (3 lines).

Steelworks Road, Battersea, S.W.11

Telegrams: "Dawnay, Battsquare, London."

Telephone: Cardiff, 2557.

And at East Moors, Cardiff.

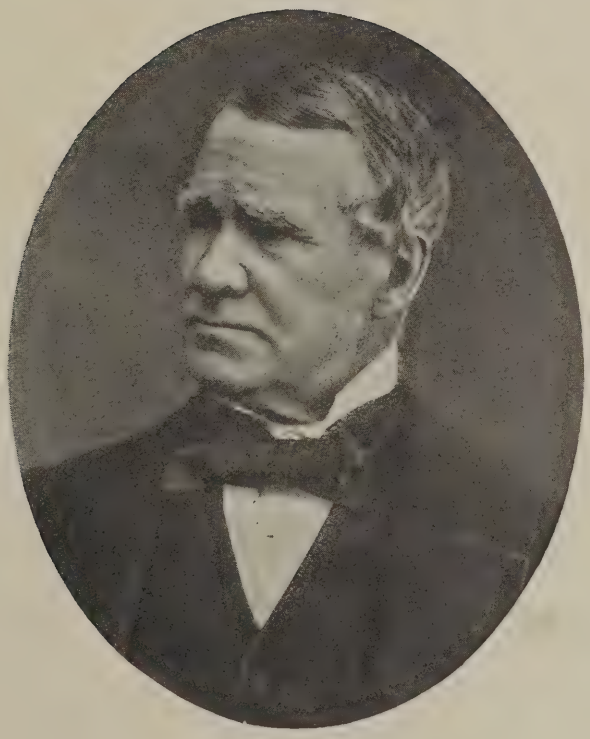
Telegrams: "Dawnay, Cardiff."

Wednesday, October 6, 1920

Volume LII. No. 1344

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



SIR JOHN HAWKSHAW.

Born 1811, died 1891. A Yorkshireman of the West Riding. Constructed Holyhead Harbour, the Severn Tunnel (1887), Charing Cross and Cannon Street Railway Stations and Bridges, and part of the Underground Railway. Was engineer to Manchester and Leeds, and Lancashire and Yorkshire Railways.

27-29 Tothill Street, Westminster, S.W.1.

English Renaissance Architecture. 4.—The Tower of St. Magnus the Martyr, London Bridge

Sir Christopher Wren, Architect

With the demolition of the old Pearl Assurance Buildings on the City side of London Bridge, a magnificent view of the tower of St. Magnus the Martyr is opened up. This church, it will be recalled, is one of the nineteen scheduled for demolition by the City Churches Commission. It is proposed, however, that the tower shall be preserved. The present St. Magnus was built in 1676. The spire was added in 1705.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.
'ednesday, October 6, 1920
Volume LII. No. 1344

Is the Industrial System Impossible?

S the industrial system becoming impossible? This crucial question was raised, we remember, some months ago by Sir Arthur Duckham, in his presidential address to the Society of British Gas dustries, and the coal crisis has set everybody thinking riously on the same lines. Sir Arthur feared that the ıjority of persons—financiers, employers, employees—re out to get as much money as possible while expend- the least effort to get it, and he reiterated the onomic truism that anyone, from the millionaire to the orest workman, who obtains wealth without truly rning it, either raises the price of the commodity, im- verishes someone else, or lowers the value of the rency. It may be remembered that Sir Arthur commended the setting-up of a Parliament of Industry, nposed of the duly elected representatives of the ious interests.

The experience, so far, with the Builders' Parliament es not flatter this idea. That is no doubt because of curiously inept constitution of the so-called parlia- nt. With opposing parties equally balanced, a dead- k is certain to ensue sooner or later, and, as we know, the case of the Builders' Parliament it occurred mptly on the preparation of the first report. That nething resembling a deadlock has also occurred with pect to the dilution of labour is clear from the frantic fruitless efforts of the Government to get the consent the trade unions to this course. On this object every ource of statesmanship has been exhausted in vain.

Dr. Macnamara, the latest essayist in the gentle art suasion, said truly enough, the other day, at the cheon given in his honour at the Connaught Rooms, t surely the most cautious trade unionist in the build- trades might for a long time to come safely dismiss idea of over-production in this particular trade. In building trades for several years shortage of labour, act, is likely to be far more prevalent than shortage of k. Why are the trade-unionists so reluctant to accept conclusion and to act on it? Partly because they w that the shortage of labour has arisen mainly from defection of men who have been enticed away by the r of higher wages and of better terms and working ditions generally—men of whom most will almost ainly drift back to their old trades when slackness ırs in the new (and possibly in the old), and partly ause trade-unionism is a sort of religion, and has its ncible dogmas, one of which is that a man who has made haste to become a trade-unionist as soon as he out of his time has not the root of the matter in him ntereth not in at the door of the fold, but climbeth up e other way, not only helping to overcrowd the flock, what is even more serious, debasing its quality and kening its influence.

hat these fears are groundless does not render them less effectual, and it is obvious that they must be ngly counteracted in some suavely diplomatic way re the workers' consent to dilution can be obtained. ernment interference in such matters is not an unmixed blessing. Sometimes it secures settlement, but usually at an exorbitant price, and the knowledge that in every dispute it is always in the background, waiting to intervene at any moment that seems most propitious for vote-catching, operates powerfully for the encouragement of wire-pulling, complicates a plain issue, and ultimately effects a feeble compromise that leaves the burning question smouldering but unextinguished, with both parties to it profoundly dissatisfied, and with a not remote prospect of further outbursts.

These are some of the hard facts that have to be faced, and it would be mischievous to ignore them. Government's most recent intrusion on the building industry is by no means reassuring. Dr. Addison, we see, has snatched at the idea, as a drowning man clutches at straws, that a "datum line" should be established in the building industry, to secure the principle of wages being regulated in accordance with output. This suggestion, which was made by a writer in the "Liverpool Courier," Dr. Addison regards as excellent, and he promised to put it before the Resettlement Committee. We wish we could share his optimism, but we fear that, no matter what the committee advises, the trade-unionists will not agree to piece-work in any form or at any price. It is astonishing that Ministers know so little of the minds of the workers or, for that matter, of the work either; and, seeing that they are so deplorably ignorant of the mere rudiments of the economics of industry and, more particularly, that they seem to know absolutely nothing of the psychology of the workers, they should refrain from all attempts to control the industry they have crippled.

Futile interference merely aggravates the situation, keeping the workers in perpetual expectancy and the employers in a nervous state bordering on despair. Unless and until the building industry is entirely free from Government control, there will be no stability in it. Left severely alone, and relieved from this endless drenching and dosing with quack pills and poisonous potions bearing the Government stamp, the industry will soon recover its normal health and efficiency.

Sir Charles Wakefield, in a letter to the "Daily Telegraph" of September 27, recalls that in 1915-16, when he was Lord Mayor of London, he suggested to a Mansion House Conference of employers and employed a five years' truce. During the war there was an almost complete truce on labour questions—"with one consent, all classes and all sections of the people put the needs of the country first and personal things last. . . . It is an extraordinary thing that it should prove so difficult for us all to recognise that our needs and the needs of the whole world to-day are as urgent as ever they were during the war, that failure to meet those needs must have consequences which will be as tragic and desperate as the war itself." His suggestion is the calling together by Government of a grand council of employers and employed to which all that is known of the world-situation should be revealed and expounded. "What is needed," he concludes, "above all is an increased output

of comradeship, courage, and common sense, sanctified by the thought of thanksgiving for those who have won the war of freedom for us."

The industrial situation was also the main theme of the presidential address of Dr. Garvie to the Congregational Union at Southampton last week. He held that "service and partnership are the ideals which should be dominant in industry." They should, certainly; but the question is, how to make them so. When the answer to that question is found—when at length an effectual means of engendering the spirit of friendly co-operation in industry has been discovered—industry will assume its true equipoise. For the whole matter relates to spirit rather than to method.

Gloomy Paris

Paris by night used to be brilliant beyond description. That was before the war. It has never quite recovered its former splendour. At present, of its sixty thousand gas-lamps only forty thousand are in use, and consequently cheerfulness and safety are at a low ebb. Footpads and Apaches, according to "The Times" Paris Correspondent, "make walking in suburban streets at night something of an adventure." They love darkness rather than light, because their deeds are evil; and if they are capable of so tender an emotion as that of gratitude, they are no doubt warming towards their ally, the British miner, thanks to whom the Paris streets by night are the happy hunting-ground of the evil-doer. Strange to think how largely the brightness and gaiety of Paris depend on the grimy and grumpy British miner, who, when he is out for more wages or less work, or both, cares not a jot for consequences, either contingent or remote.

"The Art of E. A. Rickards"

Mr. E. A. Rickards, although black-and-white happened to be his chief medium, was no mean colourist. Specimens of his skill with the brush are being reproduced in the forthcoming volume of his collected drawings. As colour-work takes much longer to print than monotint it has been found advisable to go to press with these coloured plates considerably in advance of the rest of the press-work. These plates, which are being very carefully reproduced, show how true an eye for colour-effects Mr. Rickards had. They carry conviction that he delighted in this medium, and was like to become a consummate master in it. Rapid progress is being made with the remainder of the work, and those who desire to have their names included in the list of subscribers, which is to be printed in the book, should communicate with the publishers without delay. The price of the volume is three guineas net.

House-building at Brighton

Brighton is getting busy with housing. Last week its corporation took over ceremonially the first block of new dwellings completed under its housing schemes, and simultaneously the announcement was made that the Devil's Dyke estate is to be developed on town-planning lines at the very moderate cost, as things go, of a quarter of a million sterling. That nowadays this sum does not go very far is evident from experience with the corporation schemes, in which the cost per house was originally estimated at £900, but on opening the first tenders it was found necessary to modify the specification so as to bring the contract price down to £2,050 per pair of houses. This scheme is distinct from that relating to the Moulscombe estate, on which 450 houses are being built, on the strength of a hundred thousand pounds raised locally in housing bonds. Obviously, with houses at more than two thousand pounds the pair, the housing-bond contribution is deplorably inadequate, and the amount, it is stated, is to be made up through a special issue of corporation stock. At Brighton, as elsewhere, the worst feature of the situation, from the architect's point of view, is the colossal burden of debt that is bein imposed on the middle and upper classes, who in som directions are in open revolt against it. Overwhelme with rates and taxes and confronted in every directio with exorbitant prices, the clients to whom the archite was wont to look for the greatest volume of domest work are being increasingly deprived of the means build. There is, of course, a sprinkling of profiteers wh are eager to do so, but it is not in this direction that th architect hopes to retrieve the situation. It is in the buil ing of business premises and factories, and in the adapt tion of old-fashioned houses as modern flats, or the su division of large offices into smaller ones, that for th moment the architect is chiefly engaged. He will not g work that is much more exhilarating until comple decontrol of the industry restores the confidence of th section of the public who require building to be don "without let or hindrance," and without preferenti treatment for housing, which would get on more quick and more cheaply without it.

Costly Cottages

A thousand-pound cottage no longer excites o special wonder. But getting used to the toothache do not reconcile us to it. Hence a letter to "The Times from Mr. J. H. Blaksley, stating that in Dorset th Government cottages are costing £1,000 each, has in no element of surprise, but is nevertheless painfu And here is Mr. Halsey Ricardo complaining, throug the same agency, that the Ministry of Health is not pr viding tool-sheds or any outbuildings for the agricultur labourer. Mr. Blaksley assures him, however, that th Dorset cottages are being provided with bath-rooms an accommodation for bicycles, and are in every way in measurably superior to the great majority of existin cottages, which description does not square with M Ricardo's statement that "the Ministry maintains that is unable to afford more than a roof over the laboure head." Surely the Ministry's disclaimer is much t modest, and Mr. Ricardo's demand for tool-sheds an out-houses is rather the reverse, seeing that the econom rent for a house, minus these doubtless very usef addenda, would be about £2 a week!

Town-planning Devil's Dyke

The project of building a garden city on the Devi Dyke, on the Brighton Downs, was the theme, la Friday, of one of "The Londoner's" agreeable gossi in the "Evening News." He finds it an incongruity th a Devil's Dyke should be within a five-mile walk Brighton. It was quite all right whilst Brighton w Brighthelmstone, but the change of name was fatal folklore, and "It must be many long years since anybo beheld the Devil's Dyke with proper reverence, givi the Devil his due." He does not greatly regret, the fore, the building upon the heights of the Dyke of t hundred middle-class houses, with well-appointed sho a bank, and a concert-hall. "Indeed," he says, "I fi myself planning the little town that I would build whe the painted Britons lay behind their earthworks—a to that should not spread nor sprawl, but be white and tig upon the hill, the houses neighbourly together." I would have a wall round it, on which the citizens sho "walk under the trees, and look down the steep towar Pyecombe and the square tower of pretty Poyning But to the Devil he gives notice to quit, bidding him ta with him to his burning home the cocoanut shies and t litter of greasy paper. But the enterprising build should find for this city on the Downs some name m seemly than Dyketown, the appalling appellative w which it seems to be threatened. The "Londoner's conception of the new town is delightfully mediæval, b we have no fancy for his surrounding wall, which, bei a barrier against expansion, would inevitably be remov at a later date, like the more famous wall of the "Lo doner's" own city.

Architectural Causerie: Scottish Impressions

TO revisit cities and towns in the United Kingdom redounds to pleasure and profit; for thus one can keep abreast of current doings, revive old memories, and deepen or revise one's lier impressions. These are the words of one well rsed in the moods of towns, an old stager in the art of king up such trifles as are tucked away inconspiculy. His quest was renewed a week or so ago at ndee Wharf, on the deck of a cargo-boat bound for coast of Fife, at a point where nautical London gins to be unusually interesting. As the good ship ked her way to Gravesend, there was ample time to erve unfamiliar forms among the wharfage on either e of the river. The cupolas of Late Eighteenth ntury buildings, beloved façades three hundred feet g that have never known the measuring-rod; unknown rch steeples, modern factories standing clear-cut in sunlight, as though the architect's drawings had been le to full size and pasted on gigantic sheets of millrd, the first lines of the new dockage projected ween Dagenham and Tilbury, and all the litter of cantile activity. At night the lights of seaside resorts with the flashlights of the East Coast, but until the n announced the approach of Dundee one was forced est one's eyes on the trackless sea.

* * *

lere, on the Royal coast of Fife, old memories crowd upon us. We note the whereabouts of Kirkcaldy of Dysart, of Aberdour and Burntisland, all of which es will come under observation in our progress by to Edinburgh. Like most places in Scotland, dee, in the late eighteenth and early nineteenth cens, received its quota of masonry fashioned in the tly puritanical version of classic peculiar to the rations of North Britons. It was my good fortune eet a sympathetic architect, who directed my atten- to works of interest both old and new, and also to e under the guidance of Mr. John Darge, the Clerk Vorks to the new City Hall, which has been designed ne City Engineer. Regarding the latter building, interesting to note that one conceived on lines of r scale or more care for simplicity would be hard to among modern works of similar character in the ed Kingdom. We in London have little idea of the e of works undertaken north of the Tweed, and it is shing to investigate such works in process of erec- Dundee is remarkable for the invention of the sive postage stamp at the hands of James Chalmers, e bookshop still stands. It is no less noteworthy for bundance of chimney shafts, denoting, generally ing, the sites of marmalade works, but I caught a er about jute mills.

* * *

the course of my tour the towns of Fife gave place linburgh, which called forth enthusiasm of another Most of my time was spent in the New Town, g the masterpieces of Robert Adam, but I found o examine the superb masonry on the Calton Hill, o express astonishment at the fact that the joint of Cockerell and Playfair should have been suffered nain neglected. Auld Reekie was in a misty and mood, but looked not a whit the worse for the ry in which it was thus enshrouded. I paid especial ion to the aspect of the clubs in Princes Street, and t forget to investigate the new theatre designed y obert Atkinson.

* * *

nburgh is an architects' city—it is an artists' city lawyers' paradise. Not that the Scots are by any a litigious race; but they certainly house the advocates very comfortably, and the legal gentleman have a nice taste in town quarters; and, for that matter, so have the architects. With superb examples of classicality before them the wonder is that architects have allowed the seductive alterations of art classic and French frippery to deceive them into aping the gaiety of Parisians. It is not good for sober Scotsmen to attempt the light fantastic.

* * *

Edinburgh is classic and sculpturesque, apart from essays in romanticism and the influence of the Waverley Novels. Age has silvered her countenance. There is no need for her to apply carmine to her complexion or to import red bricks amidst the greenery of her slopes.

* * *

We southerners have much to learn from the lessons of the old school of Scotsmen—Elliott, Playfair, Burn, Bryce, Greek Thomson, Sellars, and others. In the works of these men can be seen the value of architecture that depends for its effect on force and efficiency, on discipline and good taste. I go to Edinburgh to refresh my jaded mind, to chill my heated imagination, and to learn what restraint means in the treatment of stone. It is there that I gather at first hand how the Scotsman developed his humour for ornament and achieved his taste for chased silver to the confounding of all purveyors of plated ware.

* * *

All Scotch architects have an inherent taste for the works of their brother artists. Hence it is that architects are the chief patrons of painters, that they make it their business to collect oils and water-colours, to find employment for sculptors and keep them from donning the dress-coats of waiters. They also have abnormal persuasive powers with clients.

* * *

Edinburgh has receded in the distance. I am walking the populous streets of Glasgow, where the people take such an interest in art and building, and, at this juncture, in the Housing Exhibition. There used to be an old catch phrase among Glaswegians to the effect that all the world came to Glasgow to learn. Now the architect who desires information concerning restraint had better confine his studies to the matured works in Edinburgh. He will learn little from the bumptiousness of certain commercial buildings in the rival town. But of one thing I am certain, if he desires to improve his taste in the sphere of shop fronts let him pursue the wraith of Greek Thomson, who evolved the best treatment for this type of work in modern practice. But a word of caution. Do not attempt to lift the style of this specialist in toto. Rather let the investigator assimulate ideas and profit by hints and experiments.

* * *

Glasgow, with its smoke, has rolled away. Greenock and the steamer for Dublin await the writer, who, pencil in fist, jots down the aspect of the concrete buildings of Port Glasgow with approving eyes on the modern treatment of the façades and a look of wonderment towards the flat roofs. Greenock at last. There stands the Doric Customs House in wise state rebuking the passengers to Ireland; in the graveyard near by is the tomb of Highland Mary, while across the Clyde stretch mountains and hills. Night falls as the vessel rounds Arran, and it is dark as we pass Paddy's milestone. Let us turn in to rest; for to-morrow we shall pass before Ireland's Eye and rattle over the stones of North Wall.

AERO.

The Week's News

Sir John Soane's Museum

Sir John Soane's Museum, 13, Lincoln's Inn Fields, W.C., will be open, free of charge, on Thursdays and Fridays from 10.30 a.m. to 5 p.m. during October and from 10.30 a.m. to 4 p.m. during November.

£2,000,000 Glasgow Housing Scheme

The Corporation has accepted a local contractor's tender of approximately £2,000,000 for the erection of over 1,500 houses on a site at the south-western fringe of the city. A special railway siding, costing £20,000, will save £40 on each house.

R.I.B.A. War Memorial

The Council invite subscriptions for the memorial to Members, Licentiates, and Students R.I.B.A. who fell in the war, which it has been decided to erect on the premises of the Institute. Subscriptions should in no case exceed one guinea. Cheques or postal orders should be made payable to "The Royal Institute of British Architects," and be addressed to Mr. Ian MacAlister, Secretary R.I.B.A.

London Scottish Memorials

Funds are being raised by a committee of the war-time battalions of the London Scottish for the erection of war memorials at home and abroad. Panels are to be fixed at regimental headquarters and in St. Columba's Church, Pont Street. In the overseas war areas Celtic crosses are to be erected at Messines, Cambrai, or Bullecourt, and in Palestine. The crosses are to be of grey granite, about 15 ft. to 18 ft. in height, with a carved regimental crest, and inscribed with the battle honours.

The "Willett" Memorial

A proposal is afoot to erect a memorial to the late Mr. William Willett, to whose originality and perseverance the Daylight Extension Act owes its origin. The suggested form of the memorial is that of a handsome clock tower in some prominent place in London; any surplus funds to be devoted to the endowment of "Willett Beds" in some of the leading homes for the help of disabled soldiers and sailors, in whose welfare Mr. Willett was at all times specially interested.

Rome Sculpture Scholarship

Mr. Alfred Frank Hardiman, the son of a master goldsmith of London, has, on the recommendation of the Faculty of Sculpture of the British School at Rome, been awarded the Rome Scholarship in Sculpture (1920). Mr. Hardiman started life as an engineering draughtsman, and in 1911 entered the Northampton Institute, and studied for a short time under Mr. Charles Hartwell, A.R.A. While there he won the London County Council Scholarship, taking him for three years to the Royal College of Art. In 1914, with the aid of a special talent scholarship awarded by the London County Council, and a British Institute Scholarship, he entered the Royal Academy Schools, where he won the Landseer Scholarship. He enlisted in the R.A.F. in 1915, and served as engineer's draughtsman throughout the war. The Rome Scholarship is of the value of £250 per annum, and is tenable at the British School at Rome for three years.

Franco-British Conference on Education

Arrangements are in progress for holding a joint conference in Paris to discuss the need for revision of present methods of architectural education to give students a better practical training and more adequate equipment for the profession of architecture. The conference is being organised under the joint auspices of the R.I.B.A. and the Société des Architectes Diplômés par le Gouvernement. The British delegates will inc representatives of the Institute, the Royal Acad Schools, the Scottish Architectural Schools, the A School, the University of London, the London Atel and the Board of Architectural Education. The Fr delegates will include representatives of the Institu France, the Ecole Nationale des Beaux-Arts, and chief architectural societies of France. Lieut.-Col P. Cart de Lafontaine, O.B.E., A.R.I.B.A., is F Secretary of the Conference.

Progress of Private Building

During the week ending September 29, 221 priva built houses, which have been declared eligible fo Government Grant, have been completed. This fi brings the total number of houses in respect of which grant has been paid to 1,675. Plans have been appr for 19,706 of these houses, the total number of ce cates issued to September 29 being 517. At Co Bay fifty-five houses are being built under the tern the grant, thirty-eight of which will be eligible fo full grant of £260.

A New Sussex Town

A new town, to be called "Dyketown," covering acres, is to be formed by the extensive developme the world famous Dyke, near Brighton. The bus part of the new town will be devoted to up-to-date sl a social club, concert hall, and public swimming other baths, and in the residential part there will be 200 houses, with every modern convenience, and vided with picturesque gardens. The historic Hotel will be redecorated and refurnished, and the will also have a bank, post office, and electric station.

Mr. B. J. Fletcher

Mr. B. J. Fletcher, late headmaster of the Lei School of Art, has been presented with the follo address by the Leicester and Leicestershire Socie Architects in recognition af his work in the city d the last twenty years: "We, the undersigned mer of the Leicester and Leicestershire Society of Archi who are practising architects and students of arc ture, wish to put on record the deep sense of apprec we feel for the work you have done in Leicester d the last twenty years towards the development of tectural education and the encouragement of an a ciation by the citizens of good work in archite decoration, printing, and the civic arts. While we that you are leaving us, we wish you every succes happiness in your new sphere of activity, and con late Birmingham on obtaining your services."

Abbey Windows Replaced

Several priceless windows of mediæval stained which were removed from Westminster Abbey the war to protect them from damage during air have now been replaced in their original position. of the windows in the Jerusalem Chamber contain bably the oldest examples of stained glass e These depict "The Last Judgment," "The Desc of the Holy Ghost," "The Ascension," "St. Peter ing on the Sea," "The Slaying of John the Ba "The Stoning of St. Peter," and "The Slaughter Innocents." The Y.M.C.A. are giving a great w which will be placed immediately over the door l from the nave to the cloisters. A memorial winc those members of the Queen's Westminsters who the war will be placed in one of the vacant posit the chevet, and there will also be one to Sir John Barry, the engineer.

(*News continued on page* 389.)

Modern Church Building and Furnishing

By R. M. BUTLER, M.R.I.A., F.R.I.B.A.

WHEN Augustus Pugin the elder, father of the great Augustus Welby Pugin, started to revive the knowledge of Gothic, the art had been completely lost for centuries, and either architects nor craftsmen had the slightest idea how to handle it, their efforts in the "Gothic taste" were often ludicrous. When A. W. Pugin came to design churches he found himself without craftsmen to carry out his ideas and designs. It was only by interesting certain persons like Mr. Minton, of Stoke-on-Trent, the tile-maker, his "ever dear Minton," that he was enabled to make any headway, and gradually to train up a school of carvers and other artificers.

One fruitful cause of inferior work was the inordinate haste with which many churches were designed, built, and completely equipped. Architects were often required to design a church and prepare the drawings and details in a wholly insufficient space of time; builders were put into competition as to the shortest period in which they would erect the church, while the furnishing and equipment were hurried on, during the building, by various commercial firms, without any ideal or knowledge of architecture, individually or collectively, and without any sympathetic aim. This arrangement saved the architects time and thought, and was to the pecuniary advantage of those concerned, but not to the benefit of the building. Taking all into account, the wonder is not that so many churches are weak and even bad in design, but rather that so much sound building was done. It is said to be an invariable rule that the demand creates the supply, so it is certain that the demand for rapid completion brought about inadequate study, hurried design, and careless building.

As a further result the architects, through want of practice and patronage, failed to gain that facility in the handling of the attendant arts which constitute so necessary an adjunct to the artistic success of a building as a whole. In other words, much of this work was taken out of their hands, and as a result, when it did come to them they ingloriously followed the simple expedient of entrusting the work of the furnishing of the church to the commercial firms, which saved them much trouble. Moreover, many buildings in Ireland were designed by persons entirely unqualified as architects—unqualified, not merely in the sense of not being qualified by membership of some architectural society, but lacking the necessary knowledge of design.

Taking them as a whole, the churches of this era are soundly and not badly built. Some of them, one is tempted to think, too much so, or, to paraphrase Shakespeare, "would that this too too solid *stone* would melt!"

Some of the churches designed by the late J. J. MacCarthy, such as the Dominican Church in Dublin, and in particular his fine church at Tramore, are amongst the best work done by a native architect in Ireland during the Gothic revival. The Romanesque Cathedral of Sligo, the apse and the demolished central tower of the Vincentian Church at Phibsborough, Dublin, by Goldie of London, and some of the Protestant churches designed by Lynn, Drew, etc., are quite good. But far and away the best two modern churches in Ireland are Killarney Cathedral, by Augustus Welby Pugin, and the Protestant Cathedral of St. Finn Barr, Cork, by William Burges.

William Butterfield designed a very nice little chapel for St. Columba's Protestant College at Rathfarnham, Co. Dublin. The Byzantine Chapel of the Catholic University in Stephen's Green, Dublin, designed by Pollen for his friend Dr., afterwards Cardinal, Newman, has a beautiful interior, and is an admirable example of the right use of materials and the gaining of a fine effect with very moderate resources.

Good taste in architecture may be formed by the study of ancient, mediæval, and good modern work. The best modern church work is to be found in England; the churches of architects like the late J. F. Bentley, designer of Westminster Cathedral, the late G. F. Bodley, R.A., or the late J. D. Sedding, etc., are always worthy of careful examination. It will be seen with what great taste the interiors are finished and furnished and how well the true Gothic spirit has been understood, but not copied. Mr. Gilbert Scott, A.R.A., has designed for Liverpool a great cathedral, which, when completed, will be the finest modern Gothic church in the world.

In America during the past few years a most remarkable architectural revival has taken place. The recent public buildings reach a level of monumental classical dignity almost unapproached by modern work in Europe. Some of the best and most scholarly church work done anywhere is being carried on by a small group of architects, the pioneers in this ecclesiastical revival having

ALTAR FRONTAL IN ST. CHAD'S CHURCH, LONGSDON, STAFFORDSHIRE.
DESIGNED BY THE LATE GERALD C. HORSLEY.

been Mr. Ralph Adams Cram, of Boston, and his former partner, Mr. Bertram Goodhue, of New York. The noble Gothic chapel of the Military Academy at West Point, by Mr. Cram, and their many churches throughout the United States, are monuments to their scholarly knowledge and taste. In particular may be noted the elegance and originality with which the true Gothic spirit, as distinct from copyism, has been revived. The carved oak chancel screens, pulpits, and other fittings are especially worthy of attention.

Some Faults in Planning

The ground-plan of the church is of considerable importance, and tradition still exerts a great influence in its form. It should be designed with due regard to comfort and convenience, and the plans of old churches may, with much advantage, be studied. The proportions of the plan materially contribute to the ultimate effect of the building, a fact often lost sight of. The most common faults in modern Irish church plans are: the nave is almost always too wide and too short for the size of the church, and is often too low; the columns of the nave are too thin and mean. These defects are probably in part brought about by the modern desire to obtain a good view of the altar from every point, and to build cheaply. Sometimes there are too many parts, such as nave, aisles, and transepts, for the size of the building, which would be bettered by the omission of one or other, and the space so gained added to the remainder. The most usual defect in Irish churches is the miserably small size of the chancel or sanctuary; even in the largest and most pretentious churches the chancel is often little better than a recess for the altar. No economy is so dearly bought, and none results in such loss of dignity and effect. Nothing tends more to give importance to an interior than a deep, spacious chancel, affording ample space for ceremonies and offices. Most modern churches in Ireland would be vastly improved by the taking down of the eastern gable and the lengthening of the chancel. It is rare to find an old church, even in a country village, without a dignified chancel.

Sufficient thought is hardly given to the appropriate planning of such adjuncts as baptistery, mortuary chapel, sacristy, confessionals, etc., so as to make them, as it were, part of the plan, and not excrescences.

In many of the modern Irish churches it strikes one forcibly that too much proportionately has been expended upon the shell or fabric, and too little upon its interior decoration and furnishing, though actually, in point of fact, the reverse may be the case. One often sees a church of lofty size, with elaborate stone facing, much costly cut stone, lacking either points of concentrated interest or uniform elegance of detail, with cheap and ugly Welsh slates, with a thin and poor varnished roof internally; mean-looking benches, confessionals, and stations, decorations chiefly consisting of stencil patterns promiscuously distributed, obviously not the work of artists; stained-glass of bad design and execution; marble altars in which the material is unsuitably applied, brass and other metal work of stock pattern, and so forth. How much better it were had a simpler structure been built, with a better roof and roof covering, and richer and more appropriate furniture and fittings provided.

Mediæval Masonry

In the best and most completely developed mediæval work the art of masonry reached the highest possible standard; one need only look at one of the great cathedrals of England or France to see the skill and care with which the stonework is put together, the scientific ability with which the great vaults are constructed, the thrusts met, and the loads carried, often on the slenderest supports. In this higher development of the mediæval styles the masonry is of excellent ashlar. In the humbler structures the facing is often of the plain rubble walling of the district, giving most charm results.

In Ireland, during the modern church building at first chiselled or punched ashlar was employed, occasionally, with excellent effect, the plain local rub walling. As time went on, what came to be knowr "rock-faced-ashlar" was commonly used. It cheaper than dressed work, but more costly than rub It is to my mind, as a rule, a singularly ugly faci and is, I fancy, inclined to harbour damp. When tl is much "rock" on stone, and the stones are large takes away from the scale of the building, but habituated have the masons and stone-cutters becom it that it is next to impossible to get anything e unless punched or chiselled ashlar facing is specified have several times specified rubble facing and builders have put in "rock-faced" stone, owing believe, to the difficulty of getting masons to do g rubble facing; in fact, I am afraid it is fast becom a lost art. As one drives along the country roads certain districts one may often observe excel examples of rubble masonry in the older walls enclos fields or demesnes. Even in the North of Ireland, wl freestones are more plentiful, the type of facing knc as "shoddies" is generally used, although the sa stones are capable of making delightful rubble faci if only the mason knew how to do it. An example of sensible and artistic use of plain facing is at Killar Cathedral by Pugin. It is interesting and instructiv observe it and to see what an excellent effect has b obtained with the very sparing use of cut-stone. If cannot get a good rubble face I think it is better to for "punched ashlar." May I here put in a worc favour of the simple white-washed wall of comr rubble masonry? It is almost the sole relic of traditic building we have in Ireland, and is quite suitable an humble country church. It always looks clean pleasant, never vulgar, and is cheap.

The Right use of Stonework

What is now understood by the term "cut-stone" chiselled stone in dressings, prepared by stone-cutt Cut-stone is expensive, and used here, there, and ev where on the exterior of a church, without any w defined object, runs away with money which might expended to much better advantage on other purpose the building. If one cannot have an entirely cut-st or punched building face, then I think it is far bette try to get good plain rubble face, and concentrate interest by employing cut-stone for special features in a good doorway, a tracery window, or the l Breaking up the building often adds interest and av monotony when skilfully done, but the introductior numerous breaks without particular reason, other tha "break it up," adds enormously to the cost, anc meaningless and ineffective. So, too, are unnecess finials, crockets, buttresses, etc., which, used with discrimination, only serve to make the church l "fussy" and suggest the idea that they may h been introduced merely to conceal bad proportions. fact, many modern church designs would have b vastly improved by a drastic use of india-rubber! W stone facing cannot be afforded, good rough cast pebble dash is by no means to be despised. Smc cement finish is useful for keeping out the damp, bu better painted or whitewashed, or otherwise treated, it ought not to be lined out in imitation of stone worl

Next to the walls the most prominent and import feature of the exterior is the roof covering. It is aston ing how little thought has been given to this import item. In the vast majority of Irish churches comr large thin Welsh slates of ugly purple colour uniform size have been used, producing an effect a a huge flat-iron had carefully smoothed them out. E Pugin and other able architects of the day emplo them.

(*To be continued.*)

dern Ecclesiastical Architecture. 10.—Holy Trinity Church, Chelsea

The late J. D. Sedding, Architect

dding was a Romanticist born in an age of stylists He chose his own solution of Gothic, which was an attempt to take up the of the Gothic tradition where they were left in the fifteenth century, and to weave them into the weft of modern thought and need. church the idea is very fully worked out. He employed on the work some of the leading artists of his day—Gilbert, Burne-Jones, Wilson, and others.

"Homes on One Floor"

By HERBERT FREYBERG, F.S.Arc., F.S.I., Dip.San.Sci.

E suggestions given by the author n a former article, published in THE ARCHITECTS' JOURNAL for 2, 1916, with regard to the best of increasing residential accommo- by the conversion of unwieldy large into self-contained maisonnettes, een accepted so generally that a any buildings have now been re- d, more or less, on these lines.

e present time maisonnettes are so that vacant possession of a re- d suite is difficult to obtain, and en one is available it can only be on greatly enhanced terms. The ces asked and obtained for maison- re even then very much less than cured for flats, so that the person rate means who can now scarcely maisonnette, finds an ordinary flat yond him in rent and premium.

houses at present available with on are generally not only very t of repair, but, owing to bad plan- nd arrangement, expensive and difficult to work. A few people have taken their courage in both hands and started building residences for themselves, notwithstanding the high prices ruling, but the smallest houses run into such a large outlay that the person with moderate means is again handicapped, not so much by capital expenditure as in the working expenses required for domestic service, and other outgoings in a house, while a bungalow would make the cost of the site rather out of proportion to the accommodation secured. Three years ago there was a demand for houses or maisonnettes on, at most, two floors and with correspondingly few stairs. To-day the demand is for a home with no interior stairs, planned entirely upon one floor, but great difficulties have to be faced owing to the fact that no speculator or investor will build to let.

Few people can just now afford to build a house, while the repair of neglected structures is so costly as to be equally prohibitive and not satisfactory in result; even if either of these methods supplied this particular demand, which they do not. It is quite beside the question for one person only to erect a block of flats or numerous sets of maisonnettes to secure one home. There is another way of dealing with this problem, and that is for two or more people each to provide a sum, which in the old days would have sufficed to build an ordinary house, and, by "clubbing" together, to erect a building fitted up as several separate contained homes.

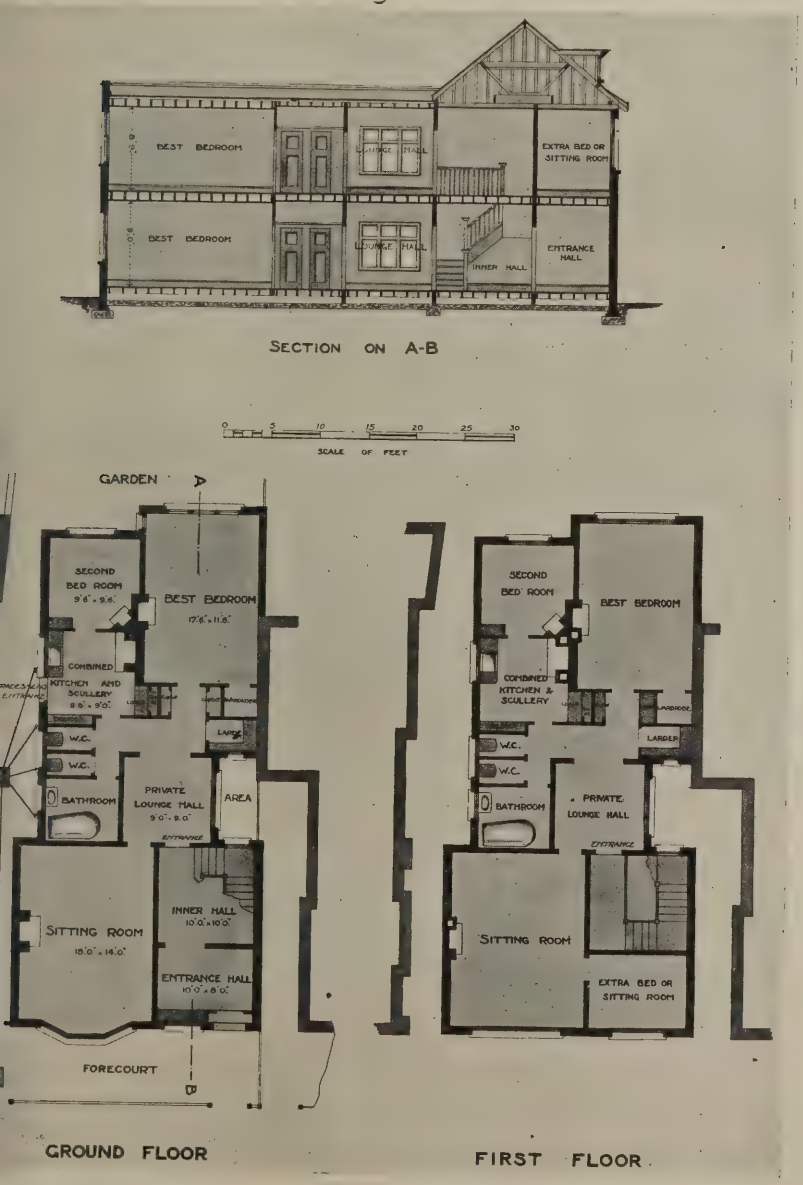
A concrete instance is presented in the design for a building now being erected in the Borough of Chelsea. As far as all appearances are concerned it is simply an ordinary high-class dwarf residence, and one that would, some few years ago, have been occupied by one tenant only. In this particular case the interior planning provides two separate residences, each arranged complete on one floor, the accommodation in each case comprising a lounge hall, a large sitting room, one large and one small bedroom, bathroom, kitchen, sanitary arrangements, and so forth, both suites being the same except that the ground floor has a bay window, while the first floor has an additional room over the entrance hall. The building, while being erected with the strictest attention to economy, possesses certain distinctive features, the roof being covered with Westmorland green slates, the porch being in stone, and the elevation faced with Reading grey bricks.

By means of this method if two or three different parties combine in securing a site, and then erect the building, it will be found that the putting down of a comparatively small amount will not only secure for each of the parties a home, but will effect that object at an economical outlay, because each will command a very much higher sum in rent than could be realised in interest on any other investment.

At Chelsea the building has been limited for many reasons to two floors, but three would be a more economical method of erection, and if the whole building were then duplicated on the semi-detached principle a set of six one-floor homes could be secured, while six would naturally cost less per suite than two or three. A private arrangement of this sort ought to be possible, and to possess the freehold of one floor in a building is by no means unheard of, there being a certain square where this tenure has been in existence for many years.

In carrying out the scheme the accommodation could be increased by the addition of another one or two rooms to each set. The particular structure in course of erection is limited in accommodation owing to the nature of the site and the surrounding buildings, but what applies in this particular case could be made equally applicable to a building embracing more accommodation. The advantages secured by this method are that the suites are designed and erected to suit the requirements of the particular tenants, so that when occupied, the two, four, or six joint owners could manage the building on lines less arbitrary and more economical to themselves than those appertaining to the tenancy of an ordinary flat.

In addition to sites available in town there are many in good positions in various



"HOMES ON ONE FLOOR" IN CHELSEA.

suburbs where such buildings could be put up with very great advantage, and where the amenities could be added to by the provision of a joint garden with tennis-courts and a small private kitchen garden for each suite.

It seems to the writer that one method of solving the housing problem (so far as the professional classes are concerned) is capable of attainment, and the accommodation could be so arranged that at the utmost one maid would be sufficient for domestic duties.

The writer hopes that, as his advice in 1916 has been followed with regard to maisonnettes, his suggestion will also commend itself to those who are still anxious to secure a permanent home, but who are puzzled by the existing state of affairs. Such individuals, aided by a very moderate capital outlay, and, of course, experienced professional advice, may secure for themselves a residence which, if curtailed (as far as accommodation is concerned), will at least form a comfortable and compact home.

R.I.B.A. Examination Results

The Intermediate

At the Intermediate Examination, held in London to qualify for registration as Student R.I.B.A., eleven candidates presented themselves, and seven passed and four were relegated. The successful candidates, who are now duly registered students, are as follows:

Clark: Robert Gibson [P. 1919], Fenay Gardens, Fenay Bridge, Huddersfield.
Jenson: Alexander George [P. 1916], 20, Carpenter Road, Edgbaston, Birmingham.
Jones: Richard William Herbert [P. 1917], 483, Archway Road, Highgate, N.6.
Knewstubb: Francis William [P. 1916], "Brackenbar," Graham Street, Penrith.
Messent: Claude John Wilson [P. 1918], 34, Mile End Road, Norwich.
Pexton: Frederick William ([P. 1919], 30, Tennyson Avenue, Scarborough.
Wood: Harry Wilson [P. 1914], 6, Grove Hill Road, Handsworth, Birmingham.

The Final and Special

Of the fifteen candidates who sat at the Final and Special Examinations held in London to qualify for candidature as Associate R.I.B.A., five passed and ten were relegated. The successful candidates are as follows:

Dale: Frederic Charles Cowderoi [Special], Architectural Association, 34, Bedford Square, W.C.1.
Francis: Bernard Thomas [S. 1915], 32, Willn Street, Upper Dale Road, Derby.
Rouse: Edward Henry [Special], Hankow, China.
Shattock: Lawrence Henry [S. 1913], 4, Crescent Road, Wimbledon, S.W.19.
Sunter: Michael Calvert [S. 1911], 15, Holland Road, Chorlton-cum-Hardy, Manchester.

The Special War Examination

Of the fifty-seven candidates who sat at the Special War Examination (for Students whose studies had been interrupted by the war), forty-nine passed and eight were relegated. The successful candidates are as follows:

Barnett: Percy William, 64, Effingham Road, Hornsey.
Betts: Albert William, 333, Nottingham Road, New Basford, Nottingham.
Bladon: Charles Arthur, 17, Oxford Road, Liscard.
Bramwell: James Stoneman, Royal Insurance Buildings, 9, North John Street, Liverpool.
Bryett: Augustus, 43, Galveston Road, East Putney.
Caton: William Cooper, 6, Waterloo Street, Hove, Sussex.
Cherry: Stanley V., 65, The Wells Road, Nottingham.
Clifton: Edward Noël, 7, East India Avenue, Leadenhall Street, E.C.3.
Connal: Harold John, 55, Wilfred Street, Derby.
Dempster: John Austin, c/o Hucklebridge, 37, Pandora Road, West Hampstead, N.W.6.
Doll: Mordaunt H. C., 5, Southampton Street, W.C.1.
Elsworth: William, University School of Architecture, Liverpool.
Emberton: Joseph, 39, Gloucester Gardens, W.2.
Evans: Eric Ewart, 30, Park Road South, Claughton, Cheshire.
Feirn: John Laurence, Rose Cottage, Windermere, Westmoreland.
Forgie: Alexander Garden, 33, Summerside Place, Leith.
Fowler: Cyril William, 47, Avenue Road, Regent's Park.
Fritchley: George Bowen, 12, Albert Road, Croydon.
Godfrey: Frederick William, 695, Fulham Road, S.W.6.
Golding: William Arthur, St. Albans Grove, Musgrave Road, Durban, Natal, S. Africa
Gregory: William John Henry, School of Architecture, The University, Liverpool.
Halfhide: Frederic William, 48, Thrale Road, Streatham Park, S.W.16.
Hall: George Langley Desmond, 1, Victoria Street, S.W.1.
Hamlyn: William Henry, 62, Roxborough Road, Harrow.
Harris: Frank Chambers, c/o Frank T. Verity, Esq., 7, Sackville Street, W.1.
Jones: Robert David, Min-y-don, Borth-y-gest, Portmadoc, N. Wales.
Laws: Horace Herbert, 31, The Avenue, West Ealing.
Lawson: Philip Hugh, 6, Shavington Avenue, Chester.
Lewis: Horace Mersham, The Pollards, Wokingham.
Loveday: William Taylor, 28, Albert Street, Rugby.
Low: Simpson, Woodlea, Dyce, Aberdeenshire.
Macfarlane: George Gordon, 5, John Street, W.C.1.
Mackintosh: William, 20, Willoughby Road, Hampstead.
Marr: Edmund Townley, c/o Sir John J. Burnet, 1, Montague Place, W.C.1.
Martindale: Christopher James Fawcett, Castle Street, Carlisle.
Newrick: Frederick Hubert, 15, Grange Terrace, Sunderland.
Norburn: George Bertram Edward, Maltmans Hill House, E. Marden, Kent.
Pearce: Oswald Duncan, Lynchmere Vicarage, Haslemere.
Peters: Thomas James, 14, Hartington Street, Newcastle-on-Tyne.
Pite: Robert William, 13, Elm Grove Road, Ealing, W.5.
Reid: Herbert Henry, 16, Burnett Place, Aberdeen.
Ross: William Alexander, 15, Felix Avenue, Crouch End.
Rudman: Walter, 7, Market Place, Chippenham, Wilts.
Stephens: Philomorus Edwin, 46, Chapel Street, Penzance.
Vergette: Robert George, Architectural Association, 34, Bedford Square, W.C.1.
Watson: Harold, Newell Carr, Otley, Yorks.
Welsh: Stephen, 54, Yeoman Street, Forfar, N.B.
Wharf: Henry Francis, 106, Coltman Street, Hull.
Wilson: Percy, "Sparlands," Argyle Road, Southport.

Correspondence

Spoiling Adelaide Place

To the Editors of THE ARCHITECTS' JOURNAL.

Sirs,—When will the people of England, and especially of London, ask for a Ministry of Fine Art, who will control the new buildings of the greatest city in the world? Now there is about to be erected a new building on the site of Adelaide Place, London Bridge, opposite Fishmongers' Hall, and I learn that it will be of such a height as entirely to destroy the scale of that building. The result will be that the two when seen from London Bridge will look like an overgrown monster endeavouring to smother a good-looking child.

A. H. BELCHER, A.R.I.B.A.

Thackeray and Montagu Square

To the Editors of THE ARCHITECTS' JOURNAL.

Sirs,—It will interest Messrs. G. Ll. Morris and H. W. Parnacott, the writers of the article on Bryanston and Montagu Squares, in your current issue, to be reminded that Thackeray mentions these squares in "The Newcomes." They will remember Mrs. Newcome's "At Home" in Bryanston Square, and that a friend of hers gave rival "At Homes" in Montagu Square!

E. TEMPLE ORME.

Civic Survey Exhib

The Civic Survey Exhibition wil in the galleries of the R.I.B.A. fr day, October 18, to Saturday, N 13, 1920, and will be open free to t daily from 10 to 5 (Saturdays 10 to exhibits will consist mainly of t and diagrams resulting from the employment of architects in colle recording in diagrammatic form lating to the various factors and c upon which depends the welfare c habitants of the particular areas d These surveys were made by whose work had been brought to still by the war, and were car under the direction of the Civi Joint Committee in the areas of London, South Lancashire (Liver Manchester), and South Yorkshire A series of special conferences wil during the Exhibition upon such as London Traffic, London Public Health (Preventive and Business Aspects of the Civic Civic Survey from the Woman's View, Geology and the Civic Su History and Archæology of Lon An important exhibit will be the Society's Development Plan of London of the Future, and on conferences will be devoted to it.

Low Buildings " Skyscrapers "?

Mr. Edwin S. Jewell, of Omaha ing a paper on the analysis of th parative Investment Value of Off ings of Various Heights," befor nual convention of the National tion of Building Owners and M held at Minneapolis, said that s values were enhanced by the in population in a section and not b of buildings on it, structures storeys in height were more pro that a saving would be made o mendous cost of foundation and elevator equipment.

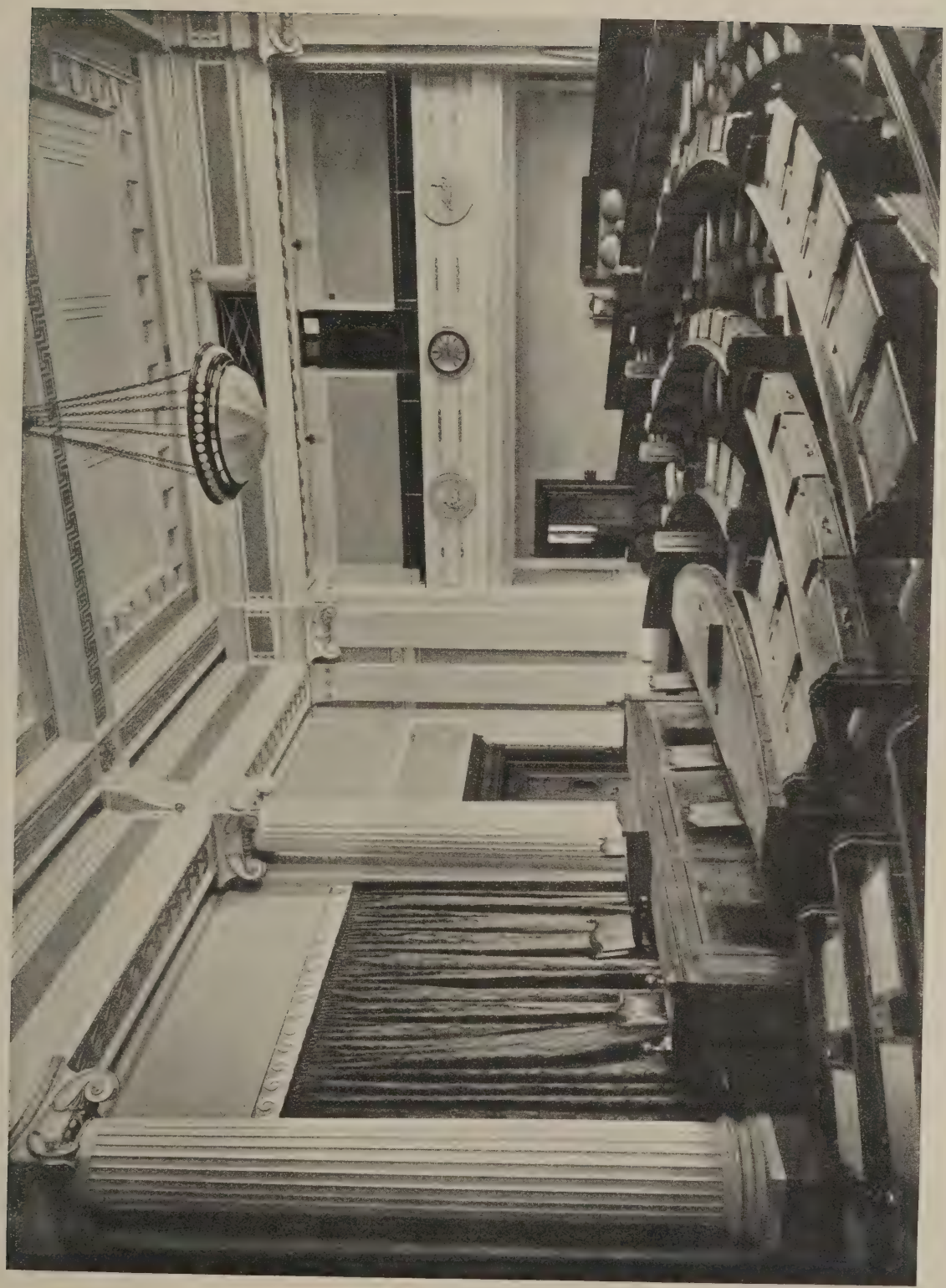
If a builder erected a six to ei building in a part of the city tha business section, Mr. Jewell sai that business section shifted in a two, the structure could readily b a factory, still a marketable buil same was true of a warehouse, e for other purposes. It is not tr skyscraper.

When builders begin to erect ing foundations and sub-basen tremendous amount of money n used for buildings in cities put into other buildings. The n into elevators, heavy framework, incidentals necessary to the erec skyscraper would pay for a good office building four to six stor covering the same piece of grou

Mr. Jewell asserted that the building plan would spread the districts of cities over wider raise land values, enabling citie more revenue for schools and ot improvements. The low buil would prevent congestion, prom and good health and by forcing t ing of the business district ove area, provide more stores, wh result in greater competition a prices to the buying public.

Metropolitan Water Board, Rosebery Avenue, London

H. Austen Hall, F.R.I.B.A., Architect



This is one of the principal apartments—architecturally, perhaps, the finest—in the splendid new building which has just been completed for the Metropolitan Water Board. It provides accommodation for seventy-six members, with galleries for the public and the Press. The furniture, joinery, and fittings are all in Cuba mahogany, manufactured and fixed by Messrs. Samuel Elliott and Sons (Reading), Ltd., of Caversham, Reading.

Enquiries Answered

he Editors cordially invite enquiries ı readers who require information on itectural, constructional, or legal ters.

nswers to enquiries are in all cases the of experts; and while every care is n to make the replies thoroughly reli- , the Editors cannot hold themselves onsible for any inaccuracies that may vertently occur.

orrespondents whose difficulties involve ible legal proceedings are strongly d to consult their solicitors before ıg action on any advice that may be n.

camination questions cannot be ered.

must be understood that, as a rule, question and answer will be published ıese columns. The name and address ıe querist must always be given, not ssarily for publication.

rrespondents are requested to be as as possible, and to write on one side he paper only.

Foundations in Clay Subsoils.

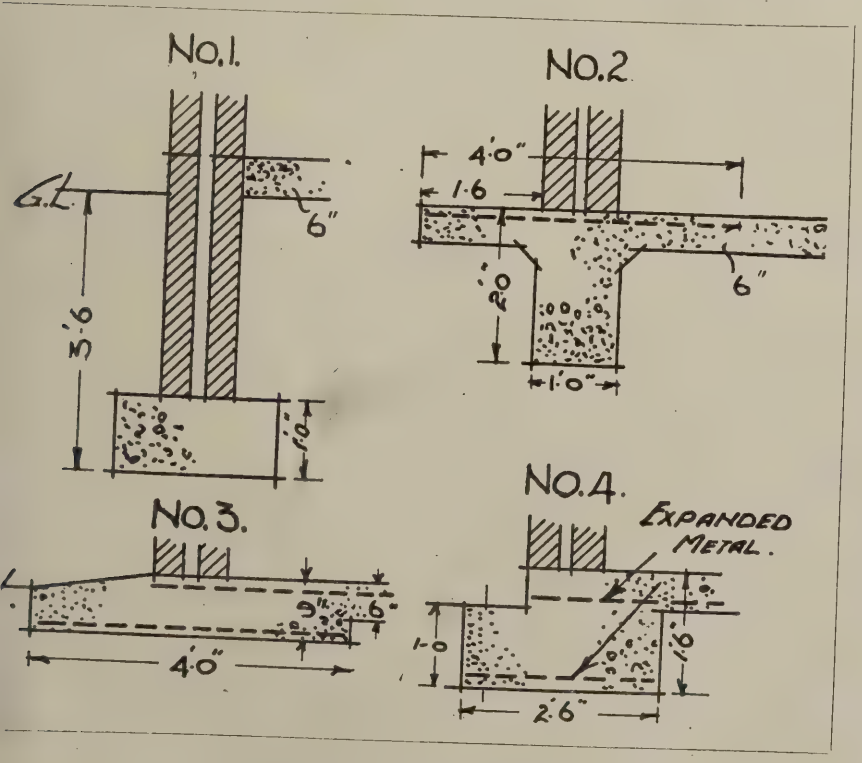
G. C. writes: "On a site upon which about to build a house the subsoil y, which is close to the surface, and sh to try to improve on the usual of foundation. This latter, which is n in section 1, is expensive and to nind unsatisfactory, although in very al use. There is no tie between the floor and the walls, and therefore any ment of the latter must result in s between the floor and the walls. uld also seem to me that the bed of ete ought to be used to spread the ıt of the building over a larger area. ın No. 2 shows a method I suggested improvement, and by which I ex- l to save about £15. I submitted to a firm of reinforced concrete specialists, who gave an amended section shown as No. 3. This latter contains a good deal of steel, which makes the cost rather heavy, and before adopting it I feel I should like an independent opinion as to whether such a large amount of reinforcement is really necessary. Could you give me an opinion on the matter? In the construction of the house I am saving expense by facing with Fletton bricks on which a cream colour wash is to be put. In your issue of March 10 you gave a recipe for a cement colour wash to plastered walls. Would you recommend this for use on Fletton bricks, or would it be better to use a wash of lime, coloured, or one of the patent distempers?"

—With regard to section No. 1, showing the usual method of forming foundations, it is not intended that any stress beyond that due to the floor load should be taken by the surface concrete, and consequently no tie is required between this and the weight—carrying foundations under the walls. To secure a firm and rigid foundation in a clay subsoil it should be taken down deep enough to be beyond the effect of the atmosphere on the clay, which causes the surface to contract and crack during dry weather; 4 ft. is usually considered deep enough to ensure this. This point is specially important if the site of the building is on sloping ground, where any movement of the subsoil by expansion and contraction would cause settlements and cracks in the superstructure, aggravated by the tendency to slide down hill.

With regard to the reinforced concrete foundations, section No. 2 is not to be recommended. In this type of foundation, the object of which is to form a firm and rigid raft to support the superstructure, it is necessary to reinforce the whole area to attain this result, otherwise the narrow reinforced strip under the walls would be liable to movement and produce consequent fractures at its junction with the unreinforced concrete. The reinforcement is required because there is no tensional strength in concrete by itself.

The important point to be taken into consideration being distribution of weight over the whole area more than depth at the particular points of support, there is no constructional advantage in forming deep narrow beams in concrete under the walls, and sketch No. 3 illustrates the more scientific and economical method of forming the foundation by the use of expanded metal over the whole site with an additional layer under the points where the load is concentrated. But in order to make the building less liable to be damp there is a decided advantage in forming deeper foundations under the walls, as this enables the surface concrete to be raised above the ground level and the best foundation is shown in sketch No. 4. By forming the foundations with a concrete raft there is a saving in excavation, carting of soil, and brickwork, besides it being a better method for a clay subsoil but an expenditure in metal for reinforcement. The foundation shown in sketch No. 4 is recommended, and has been largely adapted for small houses on a clay subsoil in garden city schemes of recent years, and while being more expensive than Nos. 2 and 3, should be cheaper than the method shown in sketch No. 1. A good colour wash for external use on Fletton brickwork can be made as follows: 1 bushel of lime to 6 lb. of yellow ochre, mixed with 1 lb. of Russian tallow and a little copperas, or any of the well-known distempers for external use can be recommended.

W. S. B.



"FOUNDATIONS IN CLAY SUBSOILS."

(See answer to F. G. C.).

Drainage and an Urban District Council.

CONSTANT READER writes: "Some years ago a friend of mine bought a house, grounds, and adjoining orchard situated in a Rural District area just outside the boundary of the Urban District Council of a small town. The Rural District Council drained the road alongside this property, carrying off the surface water into the orchard.

"This property now comes within the Urban District Council's jurisdiction, and pays the U.D.C. rates, etc., which are much higher than the R.D.C. rates, but has no sewage disposal, water supply, or lighting.

"Some weeks ago my friend led a petition of the various property-owners along this road for the sewage disposal, drains, and water supply, which run across the end of this road, to be connected up to the various properties. This was refused.

"Although within the U.D.C. area, the surface water is still drained off the road into the orchard, causing continual floods and damage to trees, etc. Can the U.D.C. do this, or can we prevent them from doing this and so force their hand in the matter of water supply, drainage, etc? There is no easement paid or compensation."

—The U.D.C. has no legal right to drain the public road through your friend's orchard to the detriment of his property unless they utilise a natural watercourse and have obtained a right by effluxion of time, and even then they must keep such use within bounds, and not cause damage.

Assuming that the water has only recently been taken through the orchard,

the U.D.C. can be compelled to divert the cause of annoyance, and deal with it in such a way that it does not cause inconvenience and damage to your friend's property.

If the road in question is an old parish road and there is a proper drainage system in the neighbourhood the U.D.C. are bound to give facilities for enjoying the use of such, for which they charge rates, and can be compelled to take the sewer down the road without making any charge, but all costs for actual connections and the house drainage to the sewer would have to be borne by the respective owners.

If the road is not an old parish road the cost of making up the road and forming the sewer would have to be borne by the adjoining owners, proportional to the extent of their respective boundaries having a frontage on such roadway.

In some districts where, owing to the hilly nature of the area a drainage system is practically out of the question, and cesspools are permitted, the expense of clearing these out is borne on the rates.

B.

Providing a Damp-proof Course.

ENQUIRER writes: "It is proposed to convert some well-built stables into a dwelling-house, but the building has no damp-proof course. Stone walls are 1 ft. 6 in. thick (square random rubble) externally. Internal walls, brick. Portion of external walls will be removed for bay window and doors. How could a D.P.C. be provided?"

—The damp-proof course would have to be inserted in the external stone walls in short lengths of about 3 ft. at a time. Cut a chase through the full thickness of the wall in the depth of the floor, or if this is not practicable, as near the floor surface as possible insert a double course of slates, joint breaking joint, and then grout up in cement and sand and tightly wedge up so that no settlement shall occur.

Unless the walls show signs of dampness, it would not be essential to insert a D.P.C. to the internal walls unless compelled by the local authorities, but if it is necessary the same method would apply.

B.

Book on Rendering Drawings: Canteen Kitchens.

C. H. B. writes: "Please let me know (1) of any publications dealing with the projection of shadows on architectural drawings, and (2) the requirements and details of works canteens."

—(1) A suitable book dealing with the projection of shadows is "Shades and Shadows," by Nat Goodwin, published by Messrs. B. T. Batsford, price 25s. This book may be obtained through our office.

(2) We know of no book dealing exclusively with works canteens. Illustrated articles on the subject, however, have been published in this Journal as follows:

"Canteen Kitchens," February 14, 1917; "Canteens for War Workers," February 21; March 7 and 28, 1917; "Canteen Buildings at the Leyland Motor Works," September 3, 1919.

All these issues can be obtained of the publisher, price 6d. per copy.

A useful handbook on canteen kitchens was produced by one of the Government Departments during the war; this could doubtless be obtained from H.M. Stationery Office or through any newsagent.

Scientific and Industrial Research

Five years having passed since the inception of the scheme for the organised encouragement by the State of scientific and industrial research, the Advisory Council, of which Sir William McCormick is administrative chairman, has embodied in its report to the committee of the Privy Council a review of the work which has been done by them during the whole of this period. A description is given of the organisation of national research on problems of wide application. The first special organisation established for dealing nationally with a problem of this kind was the Fuel Research Board, which was appointed under the direction of Sir George Beilby, F.R.S., in 1917.

"The first of these basic problems was fuel. In this country coal is and must remain the principal source of the heat, light, and power, without which no modern industry is possible. But the right or wrong use of coal affects not only every industry; it has an intimate bearing, through the Navy, the Air Force, and even through the Army, upon the national defence, and it directly influences the comfort, health, and general well-being of every man, woman, and child in the land. The use of fuel to the best possible advantage, the application of each available kind of fuel to its appropriate purposes, and the discovery and production of new forms of fuel, are obviously national problems, and as such can most equitably be attacked at the cost of the taxes, to which each of us contributes in his degree."

The Fuel Research Board has therefore drawn up a programme of research which provides for the examination of the more important types of coal from all parts of the United Kingdom and their classification according to their suitability for the production by different methods of solid, liquid, and gaseous forms of fuel. This classification includes the study of the carbonisation of coals at different temperatures and the determination of the quantities and qualities of the products, the work being carried out at the Fuel Research Station erected by the department at East Greenwich. The work of the board has been extended to cover the investigation of peat as a source of fuel, of the suitability of different kinds of coal for use as pulverised fuel, and of the problems of the production and utilisation of alcohol for power and traction purposes.

The inquiry of the board into "Gas Standards" opened up the whole question of the future development of the gas industry; and on the adoption by Parliament of the method of basing the charges for gas on the number of thermal units it contains, as recommended by the board, the equipment of the Fuel Research Station was extended in order to acquire trustworthy information as to the economics of gas production by new methods.

In order to deal with research on the materials and construction of buildings a Building (Materials and Construction) Research Board has been established under the chairmanship of the Marquis of Salisbury. This board is working in close co-operation with the Ministry of Health and other Government Departments concerned. In view of the fact that the annual pre-war expenditure on building materials was about £35,000,000 in England and Wales, it is hoped that the work of this board w result in great national savings, since co paratively small economies in the cost building materials would at present pri represent a very large total sum.

The research on home-grown timb has yielded during the past year resu of practical importance in relation British forestry, having shown, for stance, that leading coniferous species produce wood of high quality over a w area of Great Britain, ranging from Sc land to the South of England, and up to altitude of 1,800 ft. It has opened up number of important problems of scient and practical import regarding the qua of home-grown timber as influenced environment (including treatment) and systematic identity (species, hybrid, "strain"). Of more general significa are problems concerning the "factor efficiency" (or "of merit") of ho grown timbers. The experiments timber seasoning have resulted in the cessful kiln-drying of Scots pine (red d conducted in so drastic a manner a render seasoning exceedingly rapid largely, at least, to check any incip decay, without impairing the weight-ca ing power of the wood or inducing defo ation or splitting.

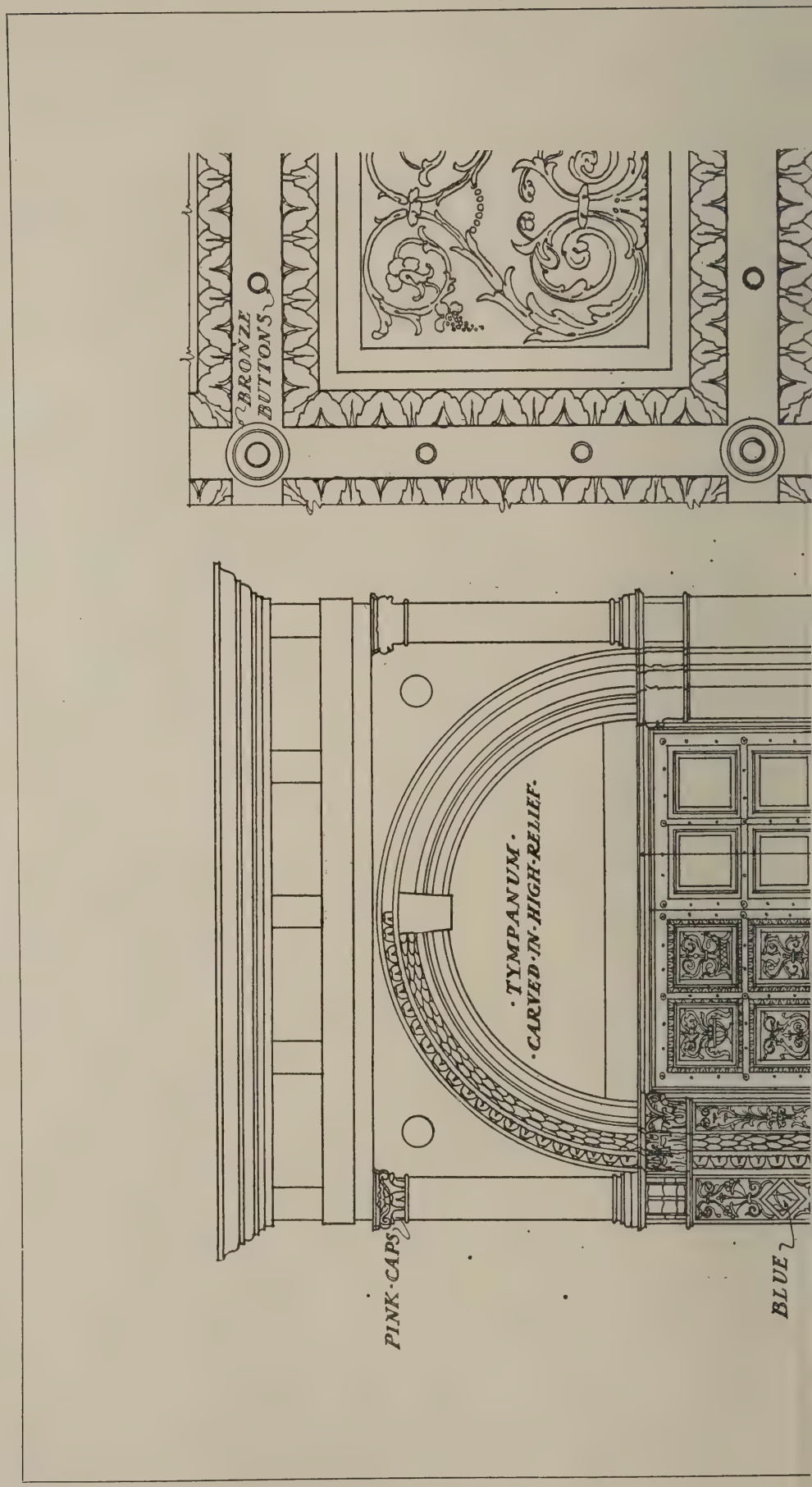
The transfer to the Department of National Physical Laboratory has ena the department to bring the great resou of this institution into their proper rela to the general scheme for the organisa of research. Month by month National Physical Laboratory become increasing value to the nation and Gov ment Departments, research associati and boards and committees of the dep ments are constantly seeking its assista In 1914 its annual income was a £40,000; for the current year £203,000 been provided, the Advisory Council b convinced that the money will be pro tive in the fullest sense.

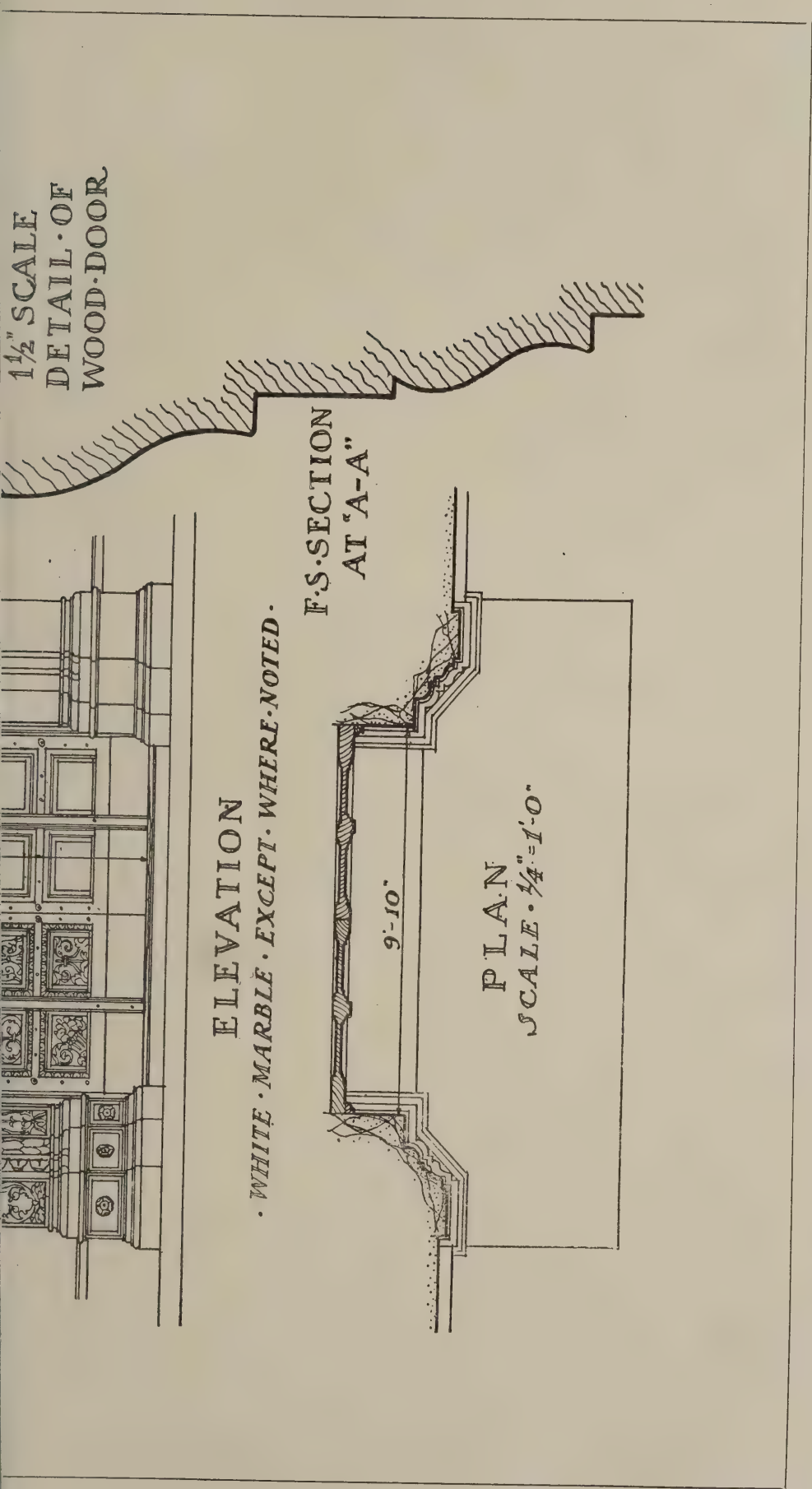
The Paris "World Market"

The Marché du Mond, to be establi in Paris, will face the Quai de P Plans show above the great entrance the "Salles des Fêtes," and the room apart for public and business gather From the entrance hall a great g roofed central avenue runs back the depth of the building; galleries at side mark the levels of the diff storeys, and light flying bridges at i vals connect one portion of the bui with the other. On either side of great central avenue stretch the fi wings in which the majority of the and offices are to be situated. These are divided by long glass-roofed co each 26 feet wide, represented by chequered spaces on the plan. The c and show-rooms situated in the wing have ample light and air through windows opening on to these courts. of the stalls contains 15 square metres a firm may take one or any numb these, the partitions being capab arrangement in any way most conve The galleries surrounding the c avenue contain similar units. At the of junction of each of the wings wi central avenue are situated the lift stairways. The Federation of Briti dustries has undertaken direct repre tion of the Marché in Great Britai the Dominions.

Measured Drawings. 5.—Doorway to the Church of Santa Maria delle Grazie, Brescia, Italy

Measured and Drawn by W. D. Foster





The doorway to this church is not only very pleasing in proportion but is quite remarkable for the excellence of its detail. The arabesques on the pilasters and the ornament on the colonnettes are remarkably fine. The carving shows the tool marks quite distinctly, the sharpness of the work giving an appearance almost as of wood carving. The general colour is a creamy white, relieved by the inserts of coloured marbles in the lozenge-shaped spaces in the arabesques; the base moulding is of a bluish marble. The wooden doors are also very beautifully carved and ornamented with bronze buttons on the stiles and rails. The doorway is probably of an earlier date than the church, which was built in 1522. Our reproduction is from the "Architectural Forum."

Competition News

'lhead (New) High School, Glasgow. he Education Authority of Glasgow ite designs for a new high school. The nority have not yet got possession of whole site, and meantime only the ac-mmodation specified in the first portion o be built, but the design submitted uld show the completed building. The nority are advised that the portion of building now to be erected should be ained at a cost of about £40,000 (the le at about £70,000). There will be two competitions, the first open to all British subjects, to consist of sketch designs. Sir John J. Burnet, R.S.A., LL.D., the assessor, will select ten or a lesser number of designs, the authors of which shall be invited to compete in the second or final competition, along with ten architects of eminence already chosen by the authority, who will not enter the first competition.

In the second competition the selected competitors will be required to send in plans, elevations, sections, etc., of a more complete and detailed character, and will be at liberty to make reasonable modifications of the sketch designs. Each competitor in the second competition shall be paid £100 provided he shall comply with the conditions. It is intended that the architect selected by the assessor from the competitors in the second competition shall carry out the work.

Each portfolio must be endorsed "Design for Hillhead (New) High School, Glasgow," and must be addressed to the assessor and delivered, carriage paid, at the offices of the authority, 129, Bath Street, Glasgow, by November 15, 1920. The name of the competitor is to be enclosed in a sealed envelope, and no motto, etc., must be placed on the drawings.

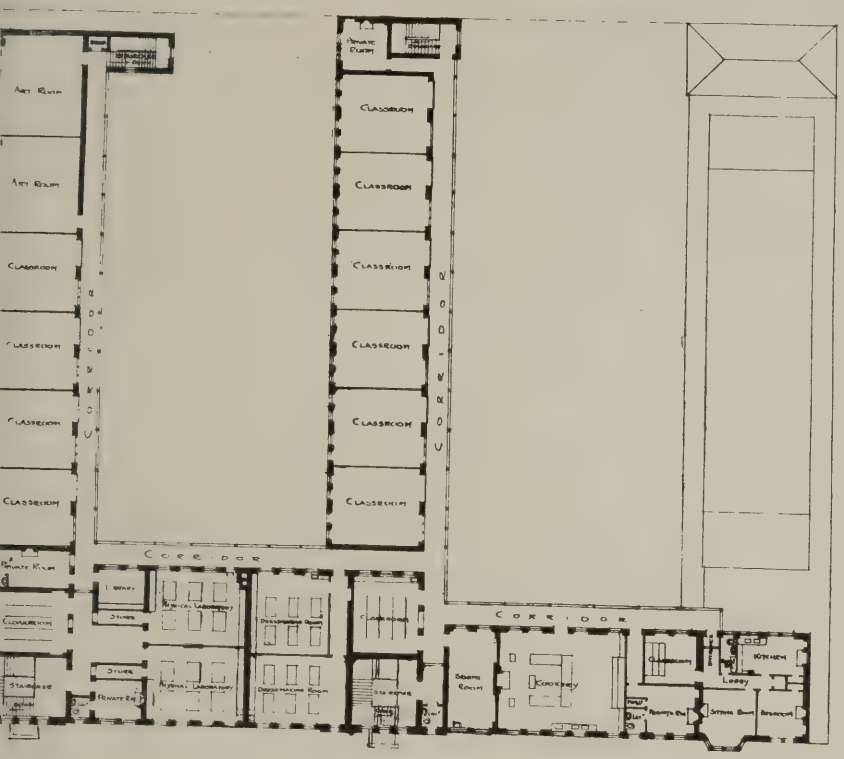
Each competitor is recommended to visit the site and to visit the following schools in Glasgow: (1) Bernard Street Supplementary School, Bernard Street, Bridgeton; (2) Burnside Special School, Burnside, Rutherglen; (3) Percy Street Special School, Percy Street, Maryhill; all recently erected by the authority, and found to be efficient. Methods of construction are to be employed in which it will be possible to place and remove partitions in almost any part of the floors. Super-loads of 1 cwt. per foot should be provided for all floors. No portion of the building may project beyond the building lines, but competitors may withdraw the whole or any portion of any frontage of the building behind them if they consider that by so doing they add to the general interest of their design, or bring the space for external gardening into better harmony with that of the surrounding property, the amenity of which the authority are anxious to preserve.

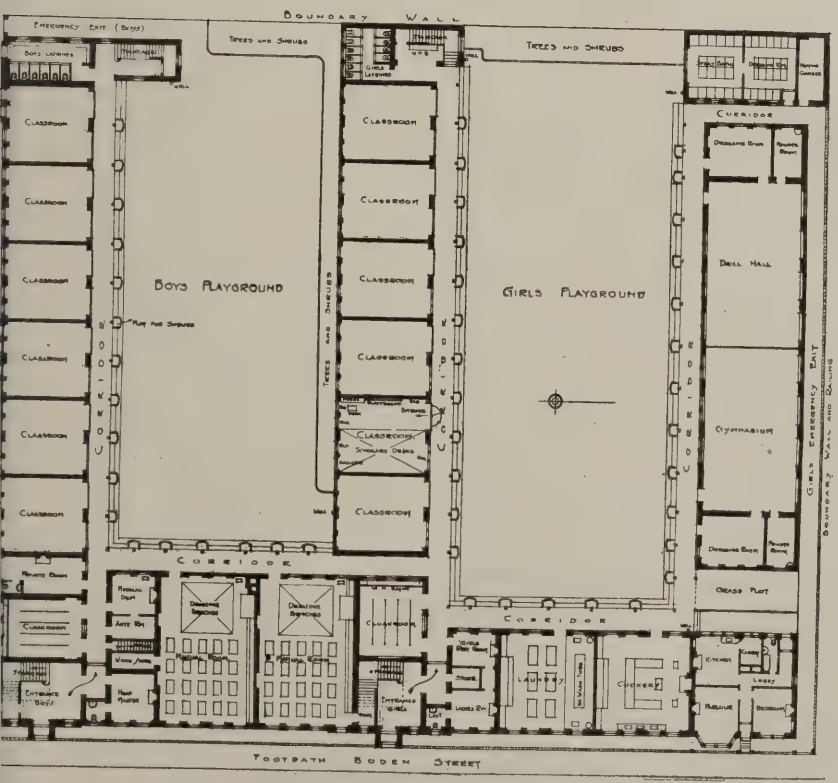
Drawings Required.

The designs of the competitors must be illustrated by the following drawings to a scale of 16 ft. to 1 in., the sheets to be of imperial size: (a) Plans of the basement, ground, and first and second floors, (b) north, south-east, and west elevations, (c) at least two sections, (d) a perspective of the buildings, taken from the north-east (corner of Glasgow and Wilson Streets) in which the building should not exceed 18 in.

Each design is to be accompanied by a descriptive report of the general scheme, materials, warming, ventilation, and lighting, together with an estimate of the cost of the design, accompanied by the cubic dimensions on which it is based, such cube to be taken from 5 ft. below the basement floor and to include the exact contents of the roof and all projections. This cost must include formation of ground, boundary walls, railings, gates, etc.

If no instructions are given to the architect to proceed with the building within twelve months from the date of the assessor's award in the second competition, then the architect shall receive payment from the authority for his services of £700, inclusive of £100 payable to him as a selected competitor. If the work is subsequently proceeded with that sum shall form part of his ultimate commission or remuneration. The remuneration of the architect appointed, to include £100 payable to him as a competitor, will be at the rate of 6 per cent. on





.HEAD HIGH SCHOOL COMPETITION. BERNARD ST. SUPPLEMENTARY SCHOOL.

the total cost of the building, but, except in certain circumstances, payments will only be made on the portion now to be erected.

First Portion.

In the portion to be first built accommodation will be required for a mixed school of 500 post-qualifying pupils (i.e., boys and girls of twelve and upwards taking a secondary course of languages, science, art, music, and physical training, extending to five years). Thirty places in each of twelve class rooms equals 360, twenty-five in each of four class rooms equals 100; total, 460. The margin of 40 (500—460) is provided for by the laboratories, etc., in which there would always be pupils. Practically the class rooms may be all of similar dimensions, leaving difference in accommodation to be matter of furnishing. In that case the school could in emergency be equipped as 16 rooms × 30 = 480. The accommodation required is as follows: Laboratories (one to be adaptable for photographic work and to have at least two dark room annexes) for twenty pupils, 8; art rooms (one 900 sq. ft. and the other 600 sq. ft., both to have store-room attached), 2; music rooms, 2; gymnasia, 2; lecture room (to serve also for debates, club meetings, etc.), 1; library, 1; common, or assembly, hall, 1; dining room for 20 per cent. of pupils, with buffet for other 30 per cent., 1; kitchen, etc., for 20 per cent. of pupils, with buffet for other 30 per cent., 1; cloak rooms (separate for boys and girls, two on each floor), 4; lavatories (separate for boys and girls, two on each floor), 4; *principal's room, 1; office (with fireproof safe room), 1; *master's room, 1; *mistresses' room, 1; *senior girls' room, 1; *senior boys' room, 1; *conservatory for botanical study, 1; store rooms, various; boiler house, 1; *janitor's house of not more than three rooms and kitchen, scullery, and bathroom (lavatory addition to rooms marked *).

Second Portion.

In the second portion of the school—accommodation to be provided for upwards of 500 pupils—items marked * need not be repeated, but should in first portion be sufficient for 1,000 pupils. Space corresponding to these items may be required in second portion to meet developments in varied forms of specialism teaching, e.g., engineering, domestic science, or in corporate school life, e.g., cadet corps, scouts, games, etc.

The definite requirements would be: class rooms (as before), 16; laboratories (as before), 8; art rooms (as before), 2; music rooms (as before), 2; gymnasia (as before), 2; dining room (as before—i.e., extension of that in first portion), 1; cloak rooms, 4; lavatories, 4.

Boiler house in first portion should be sited to admit of the same accommodating (or of being extended to accommodate) additional boilers to serve the second portion. Cloak rooms and lavatories might be arranged to admit of all such accommodation in the first portion being ultimately given up to boys (or girls)—corresponding accommodation in the second portion being appropriated to girls (or boys).

The authority are anxious for a fireproof building designed on broad, simple, and refined lines, eminently suitable for its purpose, but lending itself to embellishment with those masterpieces that constitute the basis of the fine art, and other branches of education, which the building is erected to foster. It should be so planned as to admit the maximum of sunlight and air, not only to the rooms, staircase, and corridors, but to the principal's and teachers' private rooms, and to the boys' and girls' cloak rooms and lavatories. In the services of "heating," and "cold and hot water supply," "electric light," and "gas," in which changes may be made, and repairs have to be attended to, the lay-out should be simple, the furnace room large and light and well ventilated, and the various ducts clear and easy of access, that if thought necessary each system may form part of the educational schemes carried on in the laboratories.

No particular materials are specified, but the competitors should select those which are at once durable and easy of upkeep. The authority are not averse to the use of colour work in the staircases and open corridors, but there, too, the surface must be durable and easy to clean. The treatment of the ground external to the building, as well as of the playgrounds, should be roughly indicated so as to be in keeping with the spirit of the design and add to the amenity of the district. The authority offer no suggestion as to the position of the main entrance to the building, but leave it to the competitors to select whatever side they think secures the best result in the economic planning and construction of the building. The drawings and perspective should exhibit the design of the whole building; the plans need only be detailed in that portion which is now to be erected. For detailed information regarding the requirements of the Scottish Education Department see "Rules to be Observed in Planning and Fitting-up Public Schools" (February, 1906), to be obtained from His Majesty's Stationery Offices.

Hyde War Memorial.

Designs are invited for a war memorial to cost about £2,000. Particulars may be obtained from the Borough Surveyor, Town Hall, Hyde. Closing date October 21.

Lille.

Extending and beautifying the city. Entrance fee, 300 francs. Available for premiums, 128,000 francs. Apply the Mayor. Competition closes October.

Liége.

Monument to commemorate the defence of Belgium against the German invader. One million francs has been subscribed for the project. Apply M. Léon Maréchal, Bureau des Beaux Arts, Hotel de Ville, Liége, Belgium.

Frodsham War Memorial.

The Frodsham War Memorial Committee invite designs for the erection of a monument to cost about £800. A premium of twenty guineas will be paid for the selected design, such sum to be merged in the commission in the event of the author being engaged to carry out the design. Plan of site and further particulars may be obtained on application to Mr. J. Geo. Aston, hon. sec. Memorial Committee, Main Street, Frodsham. Closing date October 30.

Lockerbie War Memorial.

As a result of correspondence between the Competitions Committee of the R.I.B.A. and the promoters, the conditions of this competition are now in order and there is no objection to members and licentiates taking part.

Improved Type of Public-House.

With a view to obtaining suggestio for improving the existing type of publ house the Court of the Worshipful Co pany of Brewers offers premiums of £3 £150, and £50 for the best design for licensed house on a given site. Compe tors must be Members or Licentia R.I.B.A. The President has consented act as assessor. Conditions and instr tions may be obtained from the Secreta R.I.B.A., by written application, acco panied by a deposit of two guineas, wh will be returned to all competitors s mitting bona fide designs.

Competition Award: Church of St. Ma Sanderstead, Surrey.

In a limited competition for a n Church of St. Mary at Sanderste Surrey, the design submitted by Mess Greenaway and Newberry has been pla first by the assessor, Mr. H. P. Bu Downing, F.S.A., of Westminster.

Weekly Housing Repo

New housing schemes submitted to Ministry during the week ended Septe ber 25 numbered 44, bringing the to number of schemes submitted to 11,1 comprising about 74,000 acres. schemes approved now number 8,105, comprise about 54,329 acres.

Seventy-seven lay-out schemes w submitted, and 45 approved during week, bringing the total number of outs submitted to 6,205, and the num approved to 5,587.

House plans representing 2,106 hou were submitted and plans for 2,812 hou approved. The total number of hou represented in all the plans now submit is 259,972, and in the plans appro 244,472.

During the week tenders were submit for 3,479 houses. Tenders for 1,835 w approved, bringing the total number houses in tenders submitted to 159,969, in tenders approved to 144,789. Contra have been signed for 106,902 houses.

Up to the beginning of September c 60 per cent. of the skilled labour requi for housing schemes was available. number of men employed was 22,397, number needed was 37,132, leaving a ficiency of 14,735. This deficiency made up as follows: 8,218 bricklay 3,785 carpenters, 651 slaters and til 1,127 plasterers, 487 plumbers, and painters and glaziers. With the except of the last two trades, these figures re sent an increase in the numbers requi in every case, over those notified month.

The number of houses in respect which certificate "A" has been issue private builders has now passed the 20, mark, the total figure being 20,308. ments have been made in respect of 1, completed houses.

Obituary

Mr. D. T. Jenkins.

The death is announced at the age sixty-two of Mr. D. T. Jenkins, steel wo manager of the Glasgow Iron and Steel Wishaw. Mr. Jenkins, who came Wishaw from Dowlais, South Wales, 1915, was a member of the Iron and S Institute, and the West of Scotland I and Steel Institute.

Current Architecture. 44.—Doorway to Board Room in the Metropolitan Water Board's New Central Offices, Rosebery Avenue, London

H. Austen Hall, F.R.I.B.A., Architect

Admirable both in design and craftsmanship, this doorway, with its fine architrave and overdoor, is a characteristic example of the internal woodwork of the Metropolitan Water Board's new offices. The doorway, together with much other fine joinery, was manufactured and fixed by Messrs. Samuel Elliott and Sons (Reading), Ltd., of Caversham, Reading.

Town Planning Conference at Bath

THE second annual conference of the Town Planning Institute has been held at Bath, under the presidency of Mr. R. A. Reay-Nadin, of Sutton Coldfield.

Mr. Mowbray A. Green, F.R.I.B.A., in the course of an interesting address on "The Planning and Architecture of the City of Bath," said that the city of Bath in the middle of the 16th century measured about 1,200 feet from east to west, 1,150 feet from north to south, and was surrounded by walls, the area within them being about thirty-seven acres. Within fifty years, almost the whole of this work had disappeared, and the Georgian Renaissance had taken possession of the city.

About 1727 John Wood, a native of Yorkshire, came to Bath, and eventually started upon the building of Queen Square, the first side of which was begun in 1735, and the whole finished within seven years. The design was simple—a rusticated basement with pillars of the Corinthian order over, and a large crowning cornice. Although only Queen Square, a part of Gay Street, and one house in The Circus were finished when the elder Wood died, it seemed fair to suppose that he was responsible for the whole plan, and that his son carried it out in conformity with the lines laid down by his father. In 1753 Wood was engaged to build a house on The Circus for the Rt. Hon. William Pitt, and in the following year he died. Twenty-seven years before he had found Bath emerging from the squalor of a mediæval city, and during this period he erected some of the most palatial groups of dwelling houses which any city could boast of.

At the end of Brock Street stands Royal Crescent, with its ample and beautiful surroundings of lawn and park. The work was begun in 1757 and finished in about eight years. It was carried out by the younger Wood. About 1762 Milsom Street was commenced. The Pulteney Street Bridge was erected about 1770, to give access from the city to the Bathwick estate, for the lay out of which Robert Adam got out many designs. Some five years later the Adam manner of building began to appear in Bath. Ten years previously the Corporation determined to build a new town hall, and Thomas Attwood's design was chosen. He was killed while some of the old houses on the site were being pulled down. Soon afterwards Thomas Baldwin, who had been a clerk in Attwood's office, produced a new set of plans, and in accordance with them the building was erected. Under a scheme of 1789, Bath Street, Cheap Street, and Union Street were built by Baldwin. Pulteney Street was built by Harcourt Masters in 1795, when the Sydney Gardens were also laid out by him.

Professor P. Abercrombie (Liverpool) proposed, and Mr. Barry Parker (Letchworth) seconded, a vote of thanks to the lecturer. Mr. Mowbray Green replied.

Professor S. D. Adshead, referring to the effect of the Act of 1919 on uncompleted schemes commenced before the war, directed special attention to: (1) The necessity for stimulating the public interest in town planning; (2) The preliminary work, both educational and directive, that was necessary in order to place more set going the suspended operations of local authorities in the preparation of their maps; and (3) The elucidation of the technical difficulties involved in switching off procedure under the procedure regulations of the Act of 1909 on to the procedure regulations yet to be issued under the later Amending Act of 1919. It was to be regretted, he said, that popular interest in town planning had practically ceased, and had been diverted to the more immediate need of housing. Propaganda was needed, and to be successful it must appeal to the public on simple and direct issues. He thought that if some three or four very definite objects to be obtained by town planning were outlined, and their realisation pressed by their propagandist societies, it would do much to awaken a renewed public interest in the completion of schemes commenced before 1914.

Since the passing of the Act of 1909 there had been a progressive inclination to increase the size of the area included. Under the Act of 1919, it was made compulsory that every council of a borough, or urban district, with a population of over 20,000 in the year 1923, should submit to the Ministry a scheme for the whole of the undeveloped land within its boundary, and that by the year 1927. The attention of those who had already embarked upon schemes would first of all need to be directed to the importance of increasing the area of their schemes. In most cases it would be found that would involve considerable changes in regard to many of the original proposals. He suggested that it was important that general instructions should be issued to all local authorities whose schemes were commenced under the 1909 Act, which would enable them to switch off the one on to the other at whatever stage in the procedure they might have arrived.

He emphasised the importance of regional rather than town planning interest, and the getting of as many of them embodied in town planning schemes as possible. They wanted to know at once what were the proposals of the Ministry of Transport as regarded new and improved road services and roads, what the Government proposed doing in regard to the erection of the sixteen super-power stations, and what their proposals were in regard to the distribution of mining villages in Wales.

Mr. E. R. Abbott (London) proposed the following resolution, which was seconded by Mr. T. Alwyn Lloyd (Cardiff), and carried unanimously:—"That in the opinion of this Institute, it is desirable, in view of the experience gained in the preparation of the town planning schemes and the difficulties involved by the restrictions placed upon local authorities as to the inclusion of built-up areas, that the words 'which is in course of development, or appears likely to be used for building purposes' should be omitted from Section 54 (1) of the Act of 1909."

Coming Events

OCTOBER 18 TO NOVEMBER 13.

Civic Survey Exhibition, to be held in the R.I.B.A. Galleries. Open to the public, free, from 10 to 5 (Saturday 10 to 1).

OCTOBER 29 TO NOVEMBER 13.

Bristol Housing and Home Life Economy Exhibition and Fair at the Drill Hall, Old Market Street, Bristol.

South Africa and Electrical Supplies

Mr. W. G. Wickham, senior trade commissioner for South Africa, states in his last annual report that advices received from public bodies all tend to indicate that there is still a shortage of electrical plant and supplies, and of building materials, and that plant on order for very long periods has not yet been delivered. Most of the leading municipalities are not only unable to give extended service in respect of electrical current, but are still, with difficulty, coping with existing demand with no reserve for emergencies. In regard to electrical goods, the market has been glutted with certain lines, such as lamps which were over-imported in 1918 by speculators, but in most lines such as heating and cooking apparatus, telephones, conduits, etc., supplies have been at times unprocurable at any price. One municipality reports finding it cheaper to use high pressure steam pipe than ordinary electrical steel conduit.

Apart from the difficulty of getting delivery of machinery against old contracts, it has been found almost impossible during the year to place orders in the United Kingdom. In spite of the adverse rate of exchange, America has taken practically every important order for large plant owing to the apparent inability of British manufacturers to quote firm either for delivery or price.

At the present time, public bodies are faced with the choice between paying what seem prohibitive prices and turning down all schemes for extended activities.

Of building materials, the one which appears to be most urgently needed and in shortest supply is cement. Three considerable works are producing in the Union and one in Rhodesia, and a number of additional companies have schemes at various stages of advancement for adding to local production. Nevertheless, the production at present is wholly inadequate for demand, and building work, drainage, etc., are being delayed in consequence. The report may be obtained from H.M. Stationery Office, or purchased through any bookseller, price 6d. net.

British Industries Fairs

An extremely interesting and profusely illustrated booklet dealing with the British Industries Fairs, to be held in London, Glasgow, and Birmingham, between February 21 and March 4 next, has been issued by the Department of Overseas Trade. The three Fairs, although held in different towns, are, in reality, only sections of one Fair, and together constitute the greatest trade fair in the world. The London Fair is directly organised by the Department of Overseas Trade on behalf of the Board of Trade, while the Fairs in Birmingham and Glasgow are organised by the municipalities of the respective cities under the auspices and with the support of the Board of Trade.

An important point in the organisation of the three Fairs is that they are held practically concurrently, and that each Fair represents a specified group of industries. No industry is permitted to exhibit at two Fairs, and consequently the buyer knows that at whichever Fair he may be visiting he will find the whole range of exhibitors in any particular trade or

trades. Further, by the careful arrangement of the dates of the sections, it is made easy for him to visit all three should he wish to do so, for while the London and Birmingham Fairs run concurrently from February 21 to March 4, the Glasgow exhibit opens a week later on February 28.

The first British Industries Fair was held in London in 1915, and the success which has attended the Fairs held since that date has satisfied the Department as to the correctness of the system of organisation. The coming Fair, though vastly increased in size, will be run on the lines which have already proved successful.

Glasgow Housing Exhibition

There are many interesting features at the Glasgow Housing and Health Exhibition, which, now being held at Kelvin Hall, closes on Saturday next. The general effect of the exhibition is extremely good, and the exhibits, which cover a large and varied range, include all kinds of building materials and machinery, furniture of all descriptions, and some ingenious models executed by artisans. Two full-sized cottages, both of which represent types now in course of erection for housing schemes, are particularly interesting. The stands are very attractive. Those of Messrs. Pinchin Johnson and Co., Ltd., and the Beaver Board Company, Ltd., were illustrated in our last issue, and that of Messrs. Belfrage and Bentley, the well-known manufacturers of metalcraft for the home, is illustrated below. Every article shown on this stand is worked entirely by hand, and each piece of work is a speciality in so far as it is the outcome of the originality and particular care which is only obtainable by the craftsman. For this reason the company do not keep large stocks, every individual requirement being studied according to the surroundings in which it is to be placed, etc., and a special design prepared if required. Any desired design can be copied or adapted according to requirements.

Of the stand of the British Commercial Gas Association one whole side is devoted to the question of smoke abatement. Here is exhibited an interesting display of sample by-products of coal, which are preserved when only the gas derived from the coal is used as fuel. When crude coal is burned these valuable chemicals and acids, as is shown in some excellent photographs and other illustrations at the exhibition, mix with the air in the form of smoke which does damage both to health and buildings. It is claimed that this damage to buildings may be stopped by the adoption of coal gas as a fuel. Among other advantages claimed are that the introduction of gas fires means a great saving in the construction of new houses. For it means a substantial economy resulting from the abolition of the chimney breast and chimney stack. A new gas flue has been recently invented which is built into the thickness of the outer walls of the house and effects a saving said to amount to fully £30 per house.

In previous issues we have published a preliminary survey, and notices of the exhibits and an article by E. N. B. dealing with domestic innovations. We should like to remind visitors to pay a visit to our own stand (No. 52 Avenue A and B), at which there is an exhibition of interesting and valuable publications, covering the whole field of architecture and building.

Trade and Craft

Change of Address.

Owing to expansion of business, the Brightside Foundry and Engineering Company, Ltd., have taken over larger premises at 242, Upper Parliament Street, Liverpool. New telephone number, 3817 Royal. Telegrams, "Brifoueng," Liverpool.

Production of Tungsten.

Tungsten in the form of an alloy has been produced in relatively large quantities for many years for hardening steel, and, after many years of research, the pure metal has been fashioned into ductile wire suitable for incandescent electric lamp filaments. The extent of this latter application is indicated by the fact that the manufacturers of Mazda lamps draw nearly 5,000 miles of tungsten wire per week, every inch of which is predestined to a life of useful incandescence in a bulb of glass. In a year this firm claim to produce sufficient tungsten wire to encircle the earth eight times.

Certain-teed Specialities.

The Leeds Fireclay Company, Ltd., of Wortley, Leeds, have sent us particulars of three of the Certain-teed specialities—insulating paper, plastic cement, and red or green mineral surfaced asphalte roofing. The insulating paper, which is saturated and coated with a special blend of Certain-teed asphaltes, is especially useful for lining buildings of all kinds to insulate them against dampness, moisture, heat, and cold. The insulating paper is also adaptable for damp-proofing between the floors, and being odourless and tasteless it is suitable for lining refrigerators, ice houses, and cold storage plants. Certain-teed plastic cement, which has innumerable uses, is claimed to be waterproof, weatherproof, and durable. It may be applied with a knife or trowel, in a similar manner to that adopted with putty, and may be used to waterproof flashings around chimneys, repairing gutters, valleys, down pipes and drains, and leakages of all descriptions. Among the advantages claimed for the cement, which is ready to use without treatment and mixing of any kind, are that it will adhere to any kind of surface—wood, metal, tile, concrete, brick, stone, or slate—and that it is not affected by coal smoke, acids, gas, or fumes, or by water. It is stated that 39 lb. of the cement will cover 100 sq. ft. of surface when laid one-sixteenth of an inch thick. Certain-teed red or green mineral surface asphalte roofing, for which many claims are made, is recommended for residences, churches, barns, garages, etc.; in fact, on any building where an attractive, economical, and serviceable roof is required.

Bell's United Asbestos Co., Ltd.

The directors of Bell's United Asbestos Company, Ltd., have decided upon the payment on October 21 of an interim dividend on the Ordinary shares numbered 1 to 140,000 and 318,373 to 353,532 inclusive, of 1s. per share, less income tax, and on the New Ordinary shares numbered 200,001 to 318,372 inclusive, of a proportionate amount in accordance with the terms of issue as set forth in the circular dated November 26, 1919, being at the rate of 10 per cent. per annum, on account of the profits for the half year ended June 30 last. The Ordinary share transfer books will be closed from October 7 to 21, both dates inclusive.

Bristol Housing Exhibition

The Fourth Bristol Housing and Home Life Economy Exhibition and Fair will be held from October 29 to November 13 in the Drill Hall, Old Market Street, Bristol. Every article consumed or required in the home will be suitable for exhibition, and there will also be exhibits of building materials, furnishing and household requisites, decorations, and heating and lighting.

GLASGOW HOUSING EXHIBITION.

HY-RIB USED AS CENTERING.

Another Notable Example

NEW "GLORY PAPER MILLS," WOOBURN GREEN.

Architect, Mr. E. C. P. Monson, F.R.I.B.A., F.S.I.

Interior of the Air Drying House. Shows the arched HY-RIB roof plastered. Very high grade paper will be dried here and the roof is designed to avoid any possibility of "dripping" on the paper. The ascending moisture condenses on the roof and runs down the sides.

Exterior view of Air Drying House under construction. Entirely in reinforced concrete on the Kahn System. Note the wide and continuous window areas.

The HY-RIB in position ready for plastering with cement plaster. The secondary beams, or purlins, are reinforced concrete "Tees" precast on ground and hoisted. On and between these the curved HY-RIB is laid in two layers making a double roof with air space.

These timber arches (centering for main beams) were the only centering used for this fine example of an arched roof. Timber shuttering is entirely obviated with HY-RIB *because HY-RIB is both a centering and reinforcement.*

HY-RIB is a steel centering of great rigidity dispensing entirely with close-boarded timber shuttering. HY-RIB also provides reinforcement.

The new HY-RIB HANDBOOK is ready. This is a handsome booklet full of drawings, photos, and practical information. Write to-day for your copy.

THE TRUSSED CONCRETE STEEL CO., LTD.
52, Truscon House, Cranley Gardens, South Kensington, S.W.7

ROYAL EDISWAN GASFILLED LAMPS

(Half Watt Type).

Two new sizes of low wattage lamps are now available.

100/130 volts, 40 watts. 5/- each

200/250 volts, 60 watts. 7/6 each

High Intrinsic Brilliancy, Concentrated Light, Durability.

These two new low wattage lamps are specially suited to Private House lighting as they can be used to replace the ordinary type of lamp without any increase in current consumption but with a very considerable increase in illumination.

Architec's and others should always specify "ROYAL EDISWAN" when ordering lamps and "EDISWAN" forother electrical supplies.

THE
EDISON SWAN ELECTRIC
COMPANY, LIMITED,
PONDERS END, MIDDLESEX.

The Week's News

(Concluded from page 368)

w Cinema at Melton Mowbray.
ew cinema, to accommodate 800 per-
nas been opened at King Street.

Housing at Chipping Norton.
een houses are to be erected by the
t a cost of £18,000.

Plymouth Housing.
it one hundred houses are in course
tion at Plymouth.

Paignton Housing.
-four houses are to be erected in
n Road, and sixty-nine at St.
l's.

Malden Housing.
scheme of the U.D.C. provides for
ction of 300 houses on the Mount
t site.

Housing at Handsworth.
Ministry of Health have sanctioned
for the housing scheme in Stubbin
Voodhouse.

radford and Direct Labour.
nundred and sixty dwellings are to
ted at Bradford Moor by direct

Conversion at Thornbury.
..D.C. have agreed to purchase the
ne Buildings at Hallen for £700
ersion into cottages.

Romford Housing.
..D.C. have decided to purchase a
ject to the approval of the Ministry
h, upon which to erect houses.

elmsford Housing Schemes.
ation is being made to the Ministry
h by the R.D.C. for sanction to a
£39,000 for the erection of houses.

hichester War Memorial.
is to be made shortly on the Chi-
Var Memorial, which is to take
of a monument in Eastgate

rete Houses for Portsmouth.
inspected Brighton's concrete
Portsmouth Corporation has
erect 100 similar ones at Ports-
l.

'ast Grinstead Housing.
D.C. have decided to apply to
try of Health for sanction to a
further £50,000 to complete their
cheme.

Houses for Worcester.
is being made with the scheme
ection of fourteen houses and
in Park Avenue and Redcliffe
direct labour.

Glasgow Housing.
ottish Co-operative Wholesale
opose to carry out a housing
the Glasgow district to provide
ation for their workmen.

Cinema for Highbridge.
inema, to seat 350, has been
Highbridge, near Bristol. The
as Mr. Maurice Cox, of Bristol,
uilder Mr. G. Coles, of High-

ry Housing Progress.
ogress is being made with the
cipal housing scheme at Wal-
here the work is being carried out for the corporation by a company of members of the Bury Building Employers' Federation.

Housing at Houghton.
The Ministry of Health has sanctioned loans of £350,000 for the erection of dwellings, £6,000 for land, £26,000 for street works, and £4,000 for sewerage works.

Housing at Woodbridge.
The Woodbridge R.D.C. have decided, subject to the confirmation of the District Housing Commissioner, to accept tenders for the erection of sixty-eight houses in fourteen parishes.

Housing at Blackwell.
The R.D.C. have received the sanction of the Ministry of Health to loans of £23,574 for the purchase of sites, £200,000 for the erection of dwellings, and £10,200 for the construction of streets.

Stone Monument, Clapham.
A stone monument, surmounted by an ornamental cross, is to be erected in front of St. James's Church, Park Hill, Clapham, to commemorate the men connected with the parish who fell in the war.

Waltham Abbey War Memorial.
The foundation stone has been laid of the new Cottage Hospital, which is to form the memorial to the fallen men of the parish at Waltham Abbey. The architects are Messrs. Tooley and Foster.

Housing at Cathcart.
Plans have been prepared for the erection of 114 houses on Prospect Hill. Other housing proposals include 1,076 houses near Carmunnock Road, 1,400 between Clarkston and Cathcart, and 2,652 houses at Castlemilk.

Housing at Coatbridge.
Coatbridge Dean of Guild Court have passed plans for the erection of 226 houses at Coatdyke at an estimated cost of a quarter of a million. This is the first instalment of Coatbridge Council's housing scheme.

Letchworth Housing.
The Ministry of Health has approved the erection of 146 houses for a sum of £131,254 7s. 4d. 372 houses have been begun, of which forty-eight are completed. Skilled men to the number of 145 are required, the worst shortage being in plasterers.

Bradford Municipal Brickmaking.
Municipal brickmaking will commence this month. Some time ago the corporation acquired brickworks at Dudley Hill, where the old steam plant has been discarded and new electrically driven machinery installed.

East Ham: Hospital as War Memorial.
Steps are being taken to erect a general hospital at East Ham, adjoining the cottage hospital, where accident cases only are treated. The cottage hospital will be converted into a municipal maternity and child welfare centre.

Bangor Housing.
The City Council has received the sanction of the Assistant Housing Commissioner to build six houses by direct labour, the limiting figure being £1,000 per house, subject to adjustment of prices of material and labour, should they vary from rates and prices ruling in August, 1920.

Lymington Housing.
The Housing Commissioner has authorised the Council to enter into contracts for the erection of thirty houses on the Bath Road site, at an estimated cost of £940 each. The Council has decided to apply to the Ministry for sanction to a loan of £28,000 for these houses.

Mexborough and the Supply of Bricks.
The Ministry of Health have expressed their willingness to sanction a loan to enable the Council to manufacture bricks for their housing scheme "provided the proposal could be justified." The Council have now instructed the housing surveyor to ascertain the cost of plant.

L.C.C. to Purchase Estate.
The purchase by the L.C.C. of the Grove Park Estate has been settled without going to arbitration. The area consists of 424 acres, and the Council have agreed to pay the purchaser at Earl Northbrook's sale a total of £56,000, £6,000 more than was paid at the sale.

Panteg Housing.
The position of the work on the Kemys Fawr Building Site is as follows:—Eight houses roofed in (two completed but for the hanging of doors and painting); two houses roof timbers fixed; four ready for roof timbers, four up to first floor joist and four up to damp course level, making a total of twenty-two houses in course of erection.

Housing in Ireland.
The Association of Municipal Authorities of Ireland, at the annual conference held under the presidency of Alderman Hadden, of Wrexham, instructed the Executive Committee to go fully into the housing problem, not with a view to obtaining a subsidy from the Government, but with a view to carrying out housing schemes from a national point of view.

Hackney's £70,000 Housing Scheme.
The Hackney Housing Committee are recommending the B.C. to adopt a scheme for the erection of sixty-two maisonnettes in Daubeney Road, Adley Street, and Rock Road, at an estimated cost of £70,246. It is proposed that each flat shall consist of a living room, two bedrooms, bathroom, scullery, and larder.

Cottages in Rural Districts.
Mr. Halsey Ricardo, F.R.I.B.A., in a letter to "The Times," says: "You permitted me—a short time back—to add my protest against the decision of the Housing Commissioner of the Ministry of Health not to provide tool sheds or any outbuildings for the agricultural labourer. The Ministry maintains that it is unable to afford more than a roof over the labourer's head. In such circumstances there is nothing for it but to acquiesce regretfully in this decision. The case is different in another instance of the Ministry's restrictions, and this time it is of constructional importance and concerns the welfare of the occupants of the new buildings. It is,

I consider, of first importance that in the construction of chimney flues their external walls in—and above—the roof should be nine inches thick. This quantity of brickwork conserves the heat, promotes thereby up draught and ventilation, and enables the flues to be curved sufficiently to carry off, without any check, the smoke. Another, and more serious, consideration is the danger of fire from thinly cased flues. Flues in the country are not as frequently swept as might be, and one not uncommon way of purging them when sufficiently foul is to set them alight. There is then the possibility of some adjacent timbers of the roof becoming ignited. Being out of sight, the mischief is not immediately apparent, and when the fire becomes visible it also has become out of hand. The protection caused by the proper casing of the flues is not a great item of expense, and in the interest of the community and the insurance companies it should be insisted on."

The Unemployment Problem.

The Industrial League and Council, realising the importance of bringing as much light to bear on the subject of unemployment as possible, have devoted a week-end to its consideration, when a number of prominent representatives of Labour and employers accepted the invitation of Mr. H. V. Roe to spend the week-end with him at Givons Grove, Leatherhead. The discussion was opened by Mr. H. V. Roe, who read a very logical paper on "Unemployment and Bankruptcy, the Spur to Progress." Every issue involving unemployment that could be thought of was introduced and debated from the point of view of each—of the Labour as well as the employer representatives in attendance—and the conclusions which were ultimately come to were:—"That this Conference of Employers and Employed, after thoroughly discussing Mr. H. V. Roe's paper on "Unemployment and Bankruptcy: the Spurs to Progress," are of opinion that: 1. Each industry should form a Joint Industrial Council of Employers and Employed, at which all the incidents of unemployment should be thoroughly and scientifically investigated. 2. Each industry should decide whether it is possible for the industry to maintain and supervise its own unemployed. 3. The representatives of all the Joint Industrial Councils should then meet and consider whether unemployment should be settled by each industry or by all industries as a whole.

Lectures on Architecture.

In the Assyrian Saloon of the British Museum, Bloomsbury, twenty-four weekly lectures, by Sir Banister Fletcher, F.R.I.B.A., are to be given on "Ancient Architecture," including Prehistoric Egyptian, West Asiatic, Greek, Roman, Early Christian, and Byzantine Architecture. The lectures, to be held on Wednesday afternoons at 4.30, will be illustrated by special lantern slides and by photographs, diagrams, and models, which will be on view half an hour before the lectures begin. This course may be taken as the first year's work of a course of study for the University Diploma in the History of Art. The fees are as follows: For the session of twenty-four lectures, £2 2s.; for each term of twelve lectures, £1 10s. Members of the U.E. Guild, or teachers, for the session, £1 7s. 6d.; term, 15s. Admission to single lecture, 3s. The third lecture will be held on October 13.

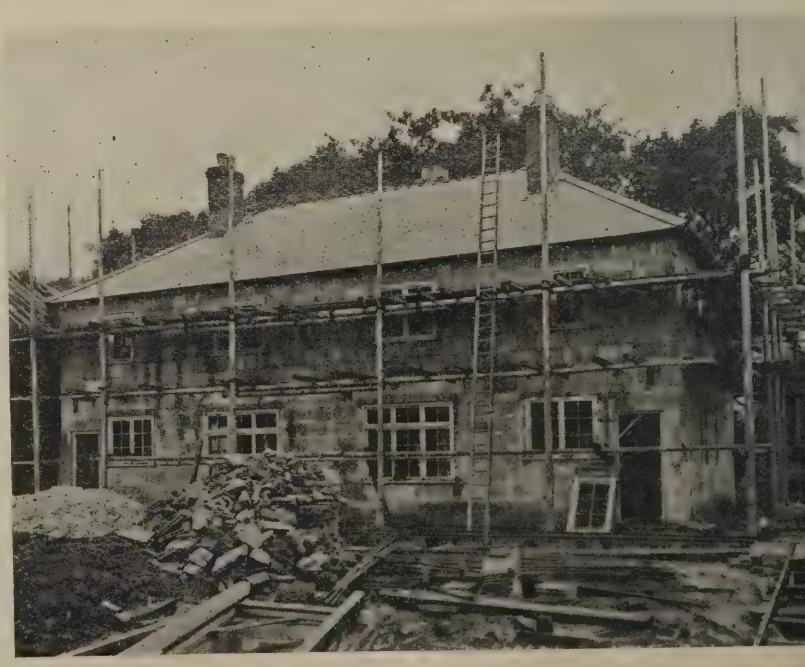
Housing at Liverpool

Dr. C. Addison, Minister of Health, visited Liverpool last week to take part in an official inspection of Liverpool's housing schemes. The object of the inspection was to show the progress that had been made during the year's operations. Despite the unprecedented and continuous scarcity of skilled workers in the building trade, and the difficulty of obtaining materials at various stages, 1,252 houses are either completed or in progress, of which 102 are occupied. The lay-outs have been designed on modern lines, with ten houses to the acre, the houses being grouped in pairs or in fours, with provision for shops, schools, libraries, places of worship, fire stations, recreation grounds, allotments, etc. Two types of houses have generally been employed, one of which has a parlour as well as a living-room; all are fitted with bathrooms and electric light. The bathroom is in all cases upstairs. The scullery is as large as the kitchen of the average pre-war house of similar accommodation.

On the Garston housing site the Economic Building Corporation, Ltd., of 323, High Holborn, London, W.C.1, have contracted to complete 2,000 houses by the middle of 1922, and at the present time the firm are well ahead of schedule time. The progress of the work is officially recorded by a series of photographs taken weekly from fixed points on the estate. In addition to the above, kinematograph films are taken from time to time showing the ease and rapidity of construction. A weekly photographic record of the progress of the houses in twelve weeks (the boundary wall of the site was broken on June 1, 1920) shows: Two completed; eight having outside walls cemented; sixteen slated; four roofed with timber ready for slating; sixteen with bedroom floor joists on; ten built up to first windows; six with floor line completed and chimney breast built; 183 completed to floor line (waiting for bricklayers); and twenty houses with the foundation fixed. It is calculated that 100 houses will be ready for occupation by the end of the year. On the work, which is daily the subject of deputations from various housing authorities throughout the country, upwards of 700 men out of a total of 1,000 are ex-service men ployed direct from the discharged sol organisation. A private railway sidi being prepared capable of dealing fifty to sixty trucks per day, approxim the number engaged for the work. N £100,000 worth of plant is on the site there are forty miles of light railwa a large number of wagons, twent steamers and petrol lorries, and thirt horse carts. An efficient system of fare is in operation on the job, by the human side of the workme brought into operation. A cante gradually approaching completion, cost to the contractors of £11,000, in hot mid-day meals will be served employed on their work at a pric than cost. The athletic club, already numbers 628, runs three fo teams in the various leagues, an fully equipped playing fields with pa accommodation. A system of free p ger travel is arranged to and from t to fixed points in the vicinity, and th trains on the London and North-W main line have been stopped for the of the quick transit of the workmen Workmen's Institute and Club is in of formation, comprising reading smoking-room, and billiard room free lectures are being instituted f winter nights. It is pleasing to no this method of appealing to the bet higher side of the men has met wit great appreciation, and the job is ru state of harmony which is nearly in these days of industrial unrest. Economic Building Corporation, have at the present moment unde sideration various contracts offer their acceptance totalling upwa £8,000,000.

A Worcester Experi

It is reported from Worcester t Standard Housing Company, Ltd., mingham, have guaranteed to er houses in Worcester during the 1 months. It is further stated that t pany have arranged to take a percentage of their payment i Housing Bonds.



GARSTON HOUSING SCHEME: A PAIR OF HOUSES NEARING COMPLETIO

RUBEROID

Roofing

2,000 yards of RUBEROID protect this building.

RUBEROID has proved efficient although the building is subjected to excessive vibration caused by heavy underground railway traffic.

For over 29 years Ruberoid has been in use on all kinds of roofs and buildings and whether laid on boards or concrete or for weatherproofing defective asphalt roofs always proves Economical, Reliable, and Durable.

Our Catalogue, illustrated with examples of our work, will be sent on request.

Made in three Colours
GREY, RED & GREEN

THE RUBEROID CO., LTD.
1, Waterloo House,
81-83, Knightrider St.
LONDON,
E.C.4.

How "WINGET" is helping to solve THE HOUSING PROBLEM

Liverpool Housing Scheme: 500 Houses are being constructed on the "Winget" System, and 2,000 with "Winget" Internal Walls.

Sheffield Housing Scheme: 1,147 Houses the whole of the internal walls of which are being built with "Winget" Blocks & Slabs.

Brighton Housing Scheme
Acton Housing Scheme
West Bromwich Housing Scheme
Hastings Housing Scheme

Walsall Housing Scheme
Bournville Housing Scheme
Smethwick Housing Scheme
Linthwaite Housing Scheme

ALL the above, and many other Housing Schemes approved by the Ministry of Health, are including the "Winget" outfit in their building operations

ALL COMMUNICATIONS RESPECTING WATER SUPPLY TO BE ADDRESSED TO THE BOROUGH ENGINEER

PHP/WH.
PHILIP H PALMER
MAMS. MST C.E.
BOROUGH ENGINEER
OFFICE TELEPHONE NO. 14
JESUSPAS 14

BOROUGH ENGINEER'S OFFICE,
TOWN HALL,
HASTINGS.

25th August, 1920.

Messrs Winget, Ltd.
24 Grosvenor Gardens,
Westminster, S. W. 1.

Dear Sirs,

In reply to yours of the 23rd inst., the Winget Pressure Machine, up to the present, has given me the greatest satisfaction I have a staff of men who are thoroughly accustomed and acquainted with the use of your machine. It may be of interest to you to know that I am making first-rate concrete blocks 18" X 9" X 4½" for £25 per thousand; there is probably not a better block made in the country.

I am, Dear Sirs,
Yours faithfully,
P H Palmer
Borough Engineer

"WINGET" Machines make practically all kinds and shapes of Concrete Blocks, Bricks, Roofing Tiles, &c., necessary to complete a house from start to finish.

WINGET LIMITED

Head and Registered Office:
WINGET HOUSE
24B Grosvenor Gardens,
Westminster, S.W.1.
Telegrams:
"Wingetism, Phone, London."
Telephone: Vic. 8334 & 8335

Foundry and Engineering Works:
THE CAPE, Warwick
Telegrams:
"Wingetism, Warwick."
Telephone: Warwick 83.

TRADE WINGET MARK

CONTENTS.

Edited by PROFESSOR A. E. RICHARDSON, F.R.I.B.A.

Notes and Comments: London University Site; R.I.B.A. Enquiry; The Objection to Dilution; Mr. George Tangye; Building Trade Wages Demands; A Victim of the Bolsheviks; The Work of the Late Mr. E. A. Rickards ... 393, 394

Architectural Causerie: Irish Impressions. By Aero 395

The Week's News 397, 417

The Architectural Association's New Premises in Bedford Square ... 398

The Rebuilding of Regent Street ... 405

A. and S.A.P.U. Secretary's Tour 405

Enquiries Answered 406

Norwich Exhibition of Architectural Drawings 406

Brighton's Great New Housing Scheme 411

Rolled-steel Sections for Structural Purposes 412

Coming Events 412

Foreign Architectural Societies ... 416

Competition News 416

Furniture at the Victoria and Albert Museum 416

Labour and Housing 416

Publications Received 416

Current Prices of Materials xxi

Electrical Notes xxiv

Complete List of Contracts Open xxvi, xxviii

ILLUSTRATIONS:

Thomas Malton 391

Architecture of the Late Eighteenth Century. 6.—Nos. 34 and 35, Bedford Square, London: The New Premises of the Architectural Association. Thomas Leverton, Architect ... 392

Proposed Atlantic Harbour at Galway Bay 395

The Viceregal Lodge, Phœnix Park, Dublin 396

Architectural Association's New Premises: Bedford Square Entrance; Morwell Street Entrance, 398. Plans Showing Alterations, 401. Detail of Ceiling in Common Room, View in Library, Secretary's Office 402

Current Architecture. 45 and 46. New Premises of the Architectural Association, Bedford Square. Robert Atkinson, F.R.I.B.A., Architect. View within Entrance Doorway, 399. The Library, The Common Room ... ...

North-East Corner of Oxford Circus, showing the Stucco Work of John Nash; after Demolition ... ...

Architectural Details. 5.—Principal Entrance of the Hotel des Monnaies, Paris 408,

Brighton Corporation Housing Scheme at Moulscoombe, Typical Houses, 411. Typical Brick-faced Houses in Original Scheme, "Winget" Block Construction Superimposed on Brick-faced Walls, 412. General Lay-out Plan ...

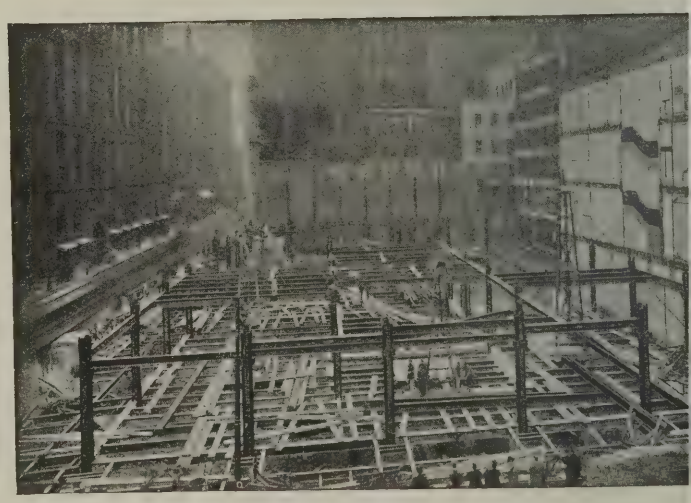
Air Views of Buildings. 7.—Clifton Suspension Bridge and the Avon Gorge ... ...

EXPERIENCE

EXPERIENCE is just knowing things. We have been long enough in the constructional trade to know we have the right material to offer you — promptly. With the added intelligent anticipation of your wants the War has taught us, we stand ready for your enquiries. Experience of our service has pleased so many.

STOCKS OF
British Standard
Sections in
Joists, Channels,
Angles, Tees,
Flats, etc.

DAWNAY DEFINITIONS—5.



ARCHIBALD D. DAWNAY & SONS Ltd.

Telephones: Battersea, 1094 (3 lines).

Steelworks Road, Battersea, S.W.11.

Telegrams: "Dawnay, Battsqua London."

And at East Moors, Cardiff.

Telephone: Cardiff, 2557.

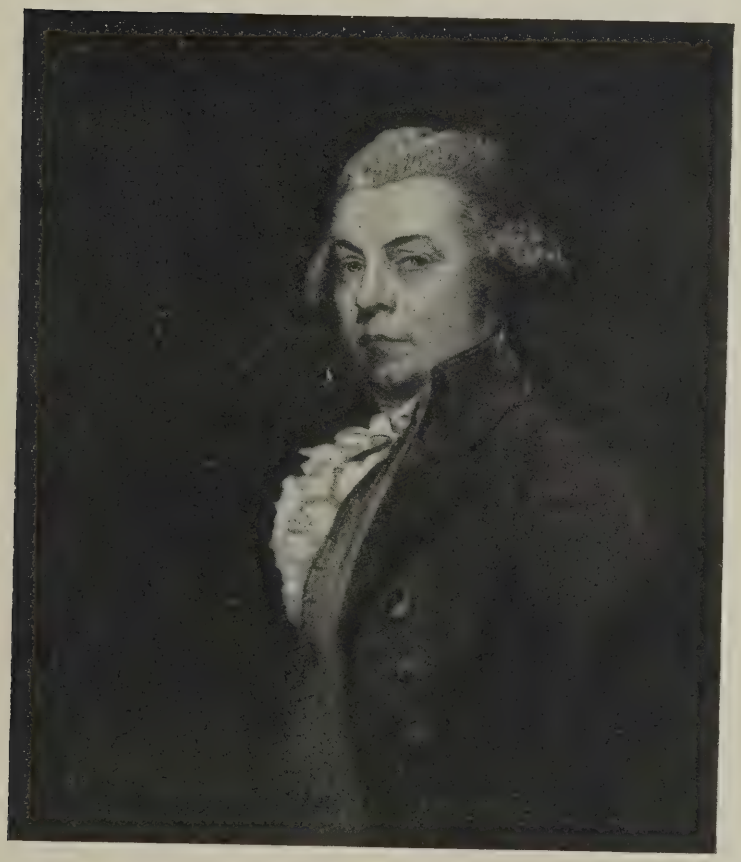
Telegrams: Dawnay, Cardiff.

Wednesday, October 13, 1920

Volume LII. No. 1345

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



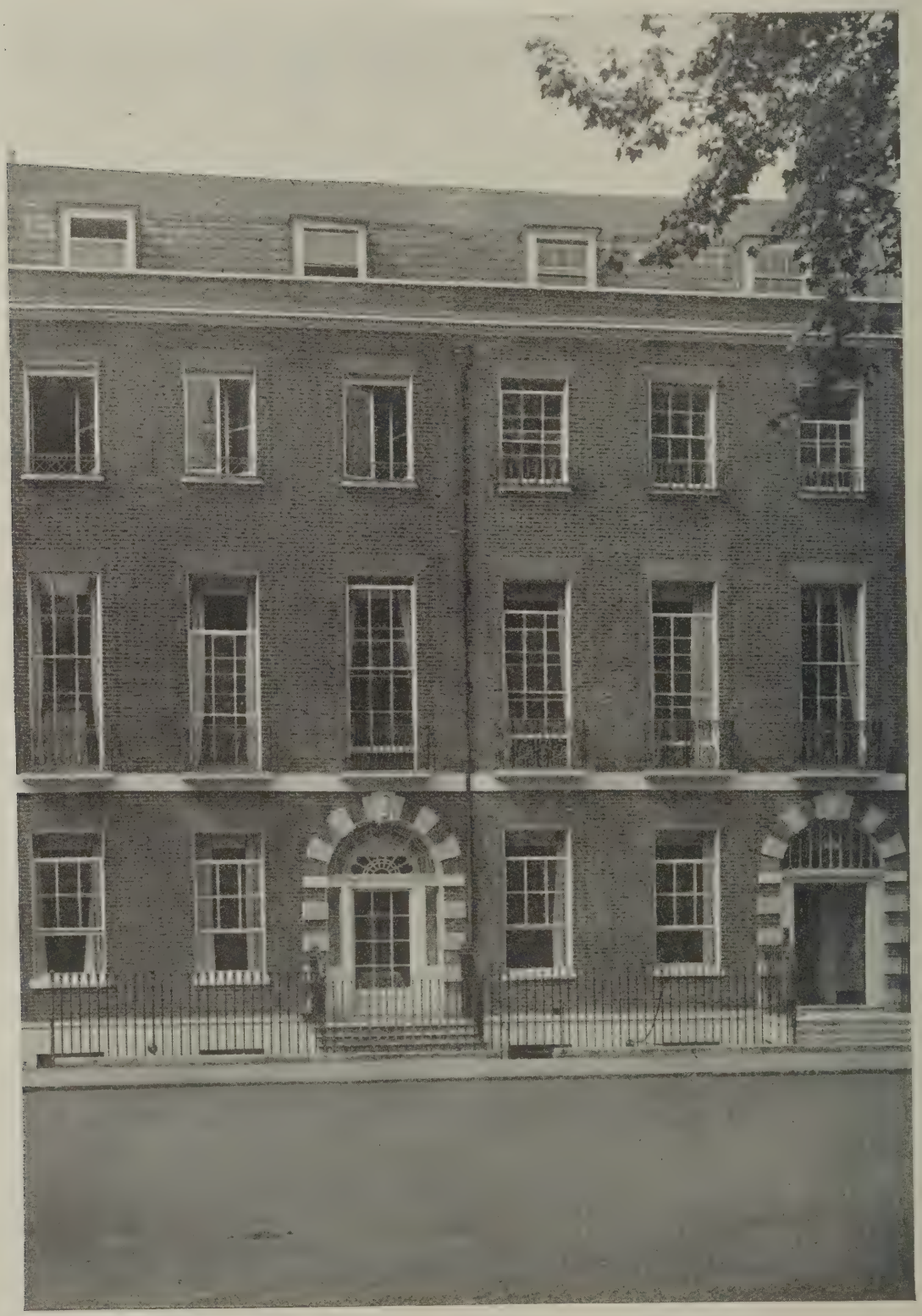
THOMAS MALTON.

Thomas Malton the Younger (1748-1804), though born probably in London, passed much of his early life at his father's residence in Dublin, afterwards being for three years in the office of James Gandon in London. Gaining early distinction as a draughtsman, he was a regular exhibitor at the Academy, chiefly of views of London streets and buildings, drawn in Indian ink and tinted. His best known work, "A Picturesque Tour through the Cities of London and Westminster" was published in 1792. At the time of his death he was engaged on a similar series of views of Oxford. Examples of his art are now in South Kensington Museum, and there is a fine interior of St. Paul's Cathedral by him in the British Museum.

27-29 Tothill Street, Westminster, S.W.1.

Architecture of the Late Eighteenth Century. 6.—Nos. 34 and 35, Bedfor Square, London: The New Premises of the Architectural Association

Thomas Leverton, Architect



Bedford Square, built about 1780, consists of large roomy houses of a sober, yet distinctly attractive, architectural type. The two houses shown above have been taken over by the Architectural Association, to whose requirements they have been adapted by Mr. Robert Atkinson, F.R.I.B.A. A full description of the new premises appears in this issue.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

nesday, October 13, 1920 Volume LII. No. 1345

Notes and Comments

London University Site

ONTROVERSY on the site for London University languishes. The general public have taken no part in it, and their apathy explains why the University was not suitably ed some fifty or sixty years ago. Londoners do not to have any corporate feeling or civic pride, or they d be marching into Trafalgar Square in their sands to demand that in the metropolis of the ire education should be treated with proper respect. ner failure to procure a suitable site and an plary building would reach the utmost limit of itude. To be perfectly just, it must be acknow- ed that London has many educational buildings ered around, the more important of them being iated with the University. There are, for example, ersity College, King's College, Bedford College for en, and several others, to say nothing of several ificent polytechnics, central and suburban. We always contended, indeed, that London's great is not additional teaching institutions, but a central ing for administering and unifying its educational rces—a building that shall be a monumental symbol ken that London has due respect and has made due sion for the intellectual interests of citizenship. We that to fulfil this purpose it is a primary and an tial condition that, besides being of monumental n, the building must be centrally situated—that is , that it must really be in London, and not in some e suburb; and, regarded from this point of view, not think that the Bloomsbury site could well be ed. Letters that have passed between the Minister ucation and the Vice-Chancellor of the University, published in last Friday's newspapers, seem to st that the Senate is now disposed to accept the nment offer, provided certain fiduciary arrange- can be satisfactorily adjusted; and as higgling money matters is equally beneath the dignity of overnment or the University Senators, there is hope of a speedy settlement of the site question. wards—and we trust very soon—will come the issue of what sort of a building we are to have ow we are to get it. There is no question that it be built in the grand manner, and the work should he greatest architectural opportunity of its class as occurred in London since the British Museum uilt. Its architect should by all means avoid the nd timorous classicality of the national museum—a ty that would be easily averted if only we had us a daringly imaginative spirit like the late E. A. ds, who would have demonstrated that the true of education is not dull decorum, but the energy of and the joyous acquisition of the knowledge which er. The new home for London University must d to the modern humane conception of education easant and profitable task rather than a penalty. unequivocally noble building London must have.

R.I.B.A. Enquiry

The R.I.B.A. is seeking information. Gladly will it learn and gladly teach. It is collecting particulars of the evil effects of Government control of building. If the response by members of the Institute is loyal, the case against control should be overwhelming. But, unfortunately, the totality of members includes, according to our experience, a rather abnormal percentage of fastidiously conscientious souls who are extraordinarily reticent about their professional experience. Their lips are sealed as closely as if they were family lawyers, guarding domestic and personal secrets of the most intimate character. On the present occasion it should be perfectly plain to them that such muteness would be utterly misplaced. Not to respond to the Institute's request would amount almost to a *suppressio veri*, and would severely handicap the Institute in its very praiseworthy endeavour to give the final kick to the intolerable system of bureaucracy from which the building industry is suffering very serious injury. Instances of this damaging effect must have come under the notice of almost every architect in the kingdom, and there should be no hesitation about bringing the particulars to the notice of the Institute. It is a duty that the architect owes to himself, to the Institute, and to the building industry.

The Objection to Dilution

Some very significant observations on the Government proposal to employ ex-Service men on building operations were made by Mr. W. Bradshaw, general secretary of the National Federation of Building Trade Operatives in an interview last Friday with a representative of the "Globe." It has been stated that the Government propose to employ a large number of ex-Service men on building work under the supervision of experts. This, of course, is dilution in another form, and the building trade operatives will oppose it energetically. Faced with a huge unemployment problem, the Government have conceived the plausible idea of working one difficulty in with another, on the chance of neutralising both. Workers are wanted in the building industry. Why not supply them from the swelling ranks of the unemployed? But, says the workers' secretary, "I do not think it is fair for the Government to introduce a proposal like that for any particular industry, unless they are prepared to give us a guarantee that the position of our men will not be impaired. We are entitled to an assurance from the Government of work or maintenance. We have been asking to be guaranteed that for eighteen months. When we are asked to respond to the needs of the community, we say the community has a responsibility to us. If it will not accept that responsibility to the extent of seeing that a man shall not walk about workless all the week, then we must maintain our economic power and use it against the

community." That is the situation as the workers see it, and their arguments will have to be met if we are to have peace in the building industry. Whether the operatives' attitude is right or wrong depends on the point of view. To us it may seem to be utter selfishness; to them it seems prudent self-defence, and upon the quality of the statesmanship that is brought to bear on the reconciliation of these points of view depends the almost immediate entry upon an era of industrial peace or of a new phase of industrial warfare in which the Government of the country, which was wont to stand aloof from such domestic strife, will be intimately involved. Control should have been abandoned months ago, and the longer it is continued, the deeper will the Government flounder in the mire.

Mr. George Tangye

Announcement of the death of Mr. George Tangye, which occurred at Birmingham last Thursday, brings to mind the dawn of a great era of invention. Heathfield Hall, where Mr. George Tangye died at the ripe age of eighty-five, was once the home of James Watt, where Josiah Wedgwood, Matthew Darwin, and Joseph Priestley often met in scientific conclave. The brothers Tangye, who were Cornishmen, started business as tool manufacturers in a room which they rented for four shillings a week. What started the firm on the high road to fortune was their invention in a difficulty experienced in launching the "Great Eastern" steamship. James Tangye had invented a lifting-jack, and this was brought into play with such effect that the big ship was successfully launched. The subsequent demand for the lifting-jack laid the foundation of the Tangye great business. Another invention that engineers and contractors found even more useful was the differential chain lifting-block, which. the undeveloped invention of T. A. Weston, was completed by George Tangye. The manufacture by the Tangyes, in 1862, of a steam road locomotive, capable of carrying ten people and travelling at a speed of more than twenty miles an hour, was checked by stupid legislation. An Act of Parliament was passed ordaining that a red flag should be carried in front of every horseless vehicle, and this regulation naturally restricted the pace to about two miles an hour or less, and there is no doubt that this ridiculous Act retarded not only locomotion, but also, in an almost equal degree, the progress of invention. Mr. George Tangye was a most public-spirited citizen, and to him and his brother, the late Sir Richard Tangye, Birmingham is indebted for its Art Gallery. They gave the initial cost of the building —£10,000—and enriched the gallery with many costly works of art.

More Building-trade Wages Demands

Last week, simultaneously with the announcement of a fresh claim by building operatives for a further increase in wages, came a manifesto from the Federation of British Industries showing only too clearly the ruinous effect of continuous demands for higher and ever higher wages. Working builders are now asking that the rate of pay within the metropolitan area shall be three shillings an hour for skilled men and two-and-ninepence an hour for labourers. Apparently these demands are to go on for ever, being repeated at short intervals. The Federation document shows clearly enough why these demands are recurrent. It is because Labour is moving in a vicious circle. It might confidently be asserted to have discovered the secret of perpetual motion, were it not for its serenely contemplative habits when the foreman isn't looking. The Federation puts the case very neatly: "So long as the purchasing power in the hands of the public retains its present volume relatively to the amount of goods and services available for purchase, the general level of prices—i.e., the cost of living —cannot fall. There are only two ways in t prices can be made to fall permanently. Eithe supply of goods and services must be increased w any corresponding net addition to credit or curren else the purchasing power in the hands of the must be reduced." In other words, it rests wit workers to restart the practice of giving good val money, and of thus increasing its purchasing p As the matter stands, a rise in wages is followed matically by a corresponding rise in prices; but the demand is always for more money for less the operative is simply chasing his own shadow. continuous demands for higher wages should be with not simply in the industries in which they aris at a general conference at which the position cou thoroughly discussed and made perfectly clear; strenuous propaganda work should be undertak convince the workers that they are ruining the co by forcing up prices. This particular demand b building operatives for three shillings an hour well serve as an illustration of the futility of th petual upward movement. Someone should wor the effect on house-rent. It would be appalling.

A Victim of the Bolsheviks

Bolshevism has made Petrograd a purgatory fo fessional men. A case in point has been brought notice. An architect of high attainments and con able standing, happy and skilful in his work, and perous at it, has been driven into exile. "At th of 1920," he writes, "I escaped on foot with my f from that communistic hell" (Petrograd); "and he adds, with a pathetic simplicity of phrase that r the manner of some of the most poignant passag Greek tragedy, "and now I am seeking for work." it Carlyle who said something to the effect that most pitiful sight on God's earth is a good man se work and finding none"? This exile is undoubte good man in every sense of the term. A correspo speaks of his "great natural ability, unflagging ass and perseverance. . . . His career at the Aca of Fine Arts at Petrograd was brilliant; his prof considered him one of their best students. His d have been much admired, displaying practical th refinement, and originality." He has travelled, master of several languages. A letter of his th have seen is in faultless and fluent English. W informed that he has made a close study of the ho problem. He has a young family to support. H give excellent references. According to our inform he is of fine scholarship, high capacity, clean crede He should not lack opportunity for the exercise talents, relief from his unmerited misfortunes. We his name and address, and we need not say that we gladly put him in touch with anybody desirous of a ing him scope for the exercise of his undoubted ca and accomplishment.

The Art of the Late Mr. E. A. Rick

Great interest has been aroused in the announc that a book showing the collected drawings of th Mr. E. A. Rickards is in the press; and, in ansv many enquiries, the publishers wish us to state that progress is being made with the work, and that who wish to have their names included in the print of subscribers should send in their names and adc without delay. Although the list will be placed beginning of the book, it will be the last section printed, but intending subscribers should nevert take at once the opportunity to register them among the admirers of this incomparable artist. book contains a very full selection of the de artist's designs and sketches, accompanied by artic his life and work by Mr. Arnold Bennett, Mr. Lanchester, F.R.I.B.A., and Mr. Amor Fenn.

Architectural Causerie: Irish Impressions

UST now, when it is the popular idea that everything of value on the other side of St. George's Channel is being destroyed, it is reassuring to know that our architect friends in Ireland are g all in their power to preserve historic landmarks to embellish their native land with buildings that in turn will be thought worthy of preservation.

* * *

ne needs to be a stranger to view a country dispasıtely, to read its varied aspects as one studies the s of a fascinating book. Far more interesting than illuminated "Book of Reels" is the vivid book of nd to-day. The story unfolded is not altogether ant reading, and there are pages we would skip, ell as happy chapters we would anticipate. In this book, where everything is real, where the sun, n. and stars are abstracted or concealed, where men mpany one through the intricacies of the burgess ens, where one can escape from thraldom to the nt mountains, and, imagining oneself in the com- of ancient kings, enjoy the solitude of height and reedom of air, one reads the soul of a people.

* * *

r myself, I speak on the authority of old prints, of ied parchments, of rare treasures in the Irish um, of the storied houses of Dublin, of the magnice and glory partially obscured, but destined, nottanding, to shine forth anon with greater power. nd is as essential to England as is the light of day; ouble is that she has been ignored.

* * *

Irishman desires the development of Ireland on ican lines, to the spoliation of all that is venerable n good taste, but he rightly demands room for nsion, freedom to trade, and scope to manage s. It is absurd to think that for over a century the of Dublin has held nothing but a few packet boats. not help thinking that when Beresford invited on to design the Customs House he had in mind evelopment of the Port of Dublin. With the advent railway linking the Liffey to the Shannon, the natural sequence should have been the formation of a vast port at Galway. This would have meant a great deal to Ireland. Direct intercourse with America would have resulted with a substantial increase in commerce. Ireland to-day needs trade of international character. She desires equal commercial privileges with the sister kingdoms. She is rightly opposed to her lands being used as mere playing fields, and she is determined to prevent the abuse.

* * *

Say what we will against the theory, Commerce is the true stimulus of modern art. Artists no longer work for despots. Even the wealthy patron has given place to men of less cultured vision, whose whims are determined by feminine counsel. Architects in Ireland, no less than in every other country, have imposed upon them to-day the invidious task of expressing the banal ideas of those who have no knowledge of form or taste. The commercial impetus is there, but it is one biassed and obsessed with practical considerations that tend to stultify the very purpose they should augment. Commerce and art should go hand in hand; then would the national prosperity develop on lines of truth and beauty. Ireland needs more trade, but she needs more than aught else—the enterprise of merchant princes of unblemished standing. Gone are the "ould times" of the great landowners. Ireland to-day as an agricultural country is in her infancy. The truth is she cannot get a sufficient number of her children to remain at home to till the land. Her mineral productions are small when compared with those of other countries of equal size. She obtains a little coal from near Lough Allen and at Coalisland, in county Tyrone. From the countries of Galway and Kilkenny comes the black marble. Connemara supplies the green marble and Cork the red. Think of the money lying idle in the undeveloped granite quarries! Why is it necessary for Englishmen to buy granite abroad when a little enterprise would bring it to the surface near their own ports? Think of the flax mills abandoned, of the water power going to waste, of the crying need to establish technical schools and training centres for the

PROPOSED ATLANTIC HARBOUR AT GALWAY BAY.
(From an engraving dated 1860.)

education of craftsmen, of the improvement urgently required in the sphere of agriculture.

* * *

As a visitor, one is privileged to see and to speak. Things are not all bad on the other side, and much is being done to spread the doctrine of good taste. For the past century nearly every Irishman with a talent for designing has become an engineer, realising from the outset that the term architect has little value in Erin; whereas the engineer who is an architect is always sure of clients. But the trouble is, so few engineers have a correct idea of building. Hence the mistakes and recriminations, the heart-burnings, the wielding of bludgeons, and the coining of the expression "Tame Archi" to express the contempt of the engineer for the long-haired and the velvet-coated. The architects, however, have the gods on their side. Especially does this remark apply to the Customs House; and as for other public buildings, we know them to have enlisted the sympathies of the apostles.

* * *

The Irish engineers are genial-hearted souls, who secretly admire the works of architects. Indeed, at one time, no engineer was without a copy of Mulvany's "Life of Gandon," and many a revised edition of Stuart's "Athens" found its way into the private library of the civil engineer during the 'fifties. During my stay in Ireland, I renewed my acquaintance with the works of Laneton Wood, including the delightful station at Dundrum; and, thanks to the hospitality of the chief engineer of the Great Southern and Western Railway, I was enabled to visit the works at Inchicore, and there, under the guidance of Messrs. Sides and Dewhurst, inspect the plant installed for the making of concrete accessories for railway needs. On the Great Southern and Western concrete has come to be recognised as the best material to withstand climatic conditions. Its uses are varied. It turns up in the form of fencing and of gates; you see it in the shape of signal-posts and for piers to engine sheds. It forms the component blocks used for building platforms in country places, it provides a ready method of standardising land drainage, and as a material for the manufacture of name-boards, requiring little upkeep, it is unrivalled. I hear that Mr. Dewhurst, who is architectural assistant to Mr. A. Gordon, the chief engineer of the Great Southern and Western, is the new president of the Irish Architectural Association.

* * *

At the present time my Irish friends are perturbed regarding the condition of the famous Casino at Clontarf, built for Lord Charlemont from the design of Sir William Chambers. Unless something is done right speedily, this priceless gem of the Classic schoo fall into irretrievable decay. Some very fine dra of this building, by the way, appeared in a r number of the "Architectural Review."

* * *

It is hard to get money for repairs in these days building in the suburbs of Dublin, but this is one international matters demanding redress. Some ago Mr. McKim offered a large sum of money to the reparation of this gem of building, but nothin done to fulfil the condition then laid down, and the lapsed.

* * *

Among the many new works reaching complet the sister kingdom is the new silo, on the north ba the Liffey. This structure, viewed from the se architecturally considered, one of the best wor modern times. Here the problem before the de was to express practical conditions in such a man to humour the situation, the result being one of and character. I hope to have the pleasure of some views of this fine work in the Journal directly the illustrations arrive I shall have more on the matter.

* * *

Not only is Ireland an incomparably deli country: her buildings are fascinating. There is something new to discover. She has always som to offer for debate. Last week I stood in front old Marine School on the South Wall, just belo place where the sailing packets in the eighteent tury started for Holyhead and Chester, turning my mind whether Cooley or Ivory was responsi the work. Malton states that Ivory prepare design, but others opine the work to be that of C This also is a question for future discussion.

* * *

The building being very much in the news just give below an illustration of the Viceregal Lo Phœnix Park. This miniature palace was built year 1784, but it was not until 1808 that the wing added and the front extended to its present lengt Ionic portico was added by Francis Johnston in This simple building is typical of the country ho the late eighteenth century period erected thro Ireland during the days of the resident aris Francis Johnston can be considered to be one of th most of Irish architects. He founded the Hib Academy and built the General Post Office in Sa Street, Dublin.

A

THE VICEREGAL LODGE, PHŒNIX PARK, DUBLIN.

The Week's News

Trehearne-Norman Prize

essrs. Trehearne and Norman have presented the ety of Architects with £200 Consols as the nucleus fund to provide an award for the encouragement of itectural training in subjects relating to "Practice."

A London Hospital Extension

or the first time since its foundation, in 1765, the eral Lying-in Hospital, London, is appealing to the c for help. For the erection and equipment of the building £100,000 is required, of which £3,000 has contributed by King Edward's Fund.

London University

e Sites Committee of the Senate of the University ondon have decided, subject to certain provisos, to nmend to the Senate acceptance of the Govern- 's offer of the Bloomsbury site. The recommenda- will come before the Senate next week.

Dry-Rot in Timber

e Society of Architects is making further researches he question of dry-rot in timber, and for this pur- requires specimens of indoor woodwork in two tions: (1) When supplied by the builder for imme- incorporation in the house or building; and (2) taken from a house after having been in this for a er of years. Members who are willing to supply specimens, which should be small in dimensions, sked to communicate with the secretary of the ty as soon as possible.

Building by Private Enterprise

e Government free grant of £260 to £230 to private rs is continuing to yield excellent results. During eek ending October 2, the grant was paid in respect 2 completed houses, representing a payment of 73. Plans were approved during the week for a r 640 houses, which will when completed become e for the grant. The number of houses already eted under the scheme is 1,867, while altogether cates have been issued approving the plans of 3 houses. The total commitment in respect of this er is now £4,913,112. Employers of labour gene- re showing a great interest in the facilities offered grant to build necessary houses for their work-.

Luxury Building Appeal Allowed

Ministry of Health Tribunal, held in London, llowed an appeal by the building owners against er made by the Birmingham Housing Committee rict the continuance of the work at the Palais de , Edgbaston, on the ground that it was a luxury g. Originally a skating rink, the building is now converted into a dancing hall. The structural ions commenced in April last involved an expendi- £12,000, and the work to be finished consists of a y and staircases. In giving the decision of the al, the Chairman said that they were unable to at the work remaining to be done, which was not uch, would interfere with the housing scheme of rporation. They therefore allowed the appeal.

ungalow and the Government Subsidy

Wigton R.D.C. have upheld the ruling of their y Committee that a wooden bungalow erected at n is not a building for which the Government can be granted. Correspondence was read at eting of the Council in which the Housing Com- er stated that as the bungalow was what was a week-end cottage it would not, under the provisions of the Act, be eligible for a grant. It was stated at the meeting that it was simply a case of an owner providing himself with an alternative summer residence, and created the position of one person occupying two houses while other people had none.

Housing Progress

New housing schemes submitted to the Ministry of Health during the week ended October 2 numbered forty-nine, bringing the total number of schemes submitted to 11,149, comprising over 73,000 acres. The schemes approved now number 8,155, and comprise about 54,500 acres. Forty-three lay-out schemes were submitted and forty-six approved, bringing the total number of lay-outs submitted to 6,271, and number approved to 5,659. House plans representing 1,110 houses were submitted, and plans for 1,017 houses approved. The total number of houses represented in all the plans now submitted is 261,213, and in the plans approved 245,815. Tenders were submitted for 1,930 houses, and tenders for 1,044 were approved, bringing the total number of houses in tenders submitted to 161,559, and in tenders approved to 146,593. Contracts have been signed for 110,237 houses.

Stoppage of Building

The Council of the Royal Institute of British Architects, having been requested to hold an inquiry into the effect of the stoppage of building works throughout the country under Section 5 of the Housing Act of 1919, are desirous of obtaining information relating thereto. Building owners, architects, and others engaged in building operations are asked to furnish the secretary of the R.I.B.A., 9, Conduit Street, W.1, with information in writing on the following points before the end of October: (1) Buildings which have been stopped during progress. (2) Buildings as to which warning notices have been issued. (3) Buildings which have been prohibited from starting under the following heads: (a) The nature of the building so stopped. (b) The cost of such building. (c) The approximate number of men employed in the various trades on such buildings. (4) Any information as to buildings which have been allowed to proceed subject to the substitution of other materials for those originally intended. (5) Any buildings over £1,000 cost allowed to proceed unaltered. Any other information of value will be greatly appreciated.

Cardiff School of Architecture

We have received a letter signed by Lord Plymouth, Sir Alfred Mond, M.P., and a number of other influential persons, calling attention to the facilities offered at the new School of Architecture and Civic Design at the Cardiff Technical College. The establishment of this school marks a distinct forward move in architectural education in Wales. Under the new five years' scheme the student will be taken through a carefully prepared and graded course of study in the day-time, dealing with all branches of his profession. Towards the end of his five years' course the student will spend part of his time in an architect's office, to apply in practice the knowledge he has acquired at college. The Cardiff Technical College have secured as head of the new department Mr. W. S. Purchon, M.A., A.R.I.B.A., who has had twelve years' experience of similar work at Sheffield University. He is a member of the Board of Architectural Education of the Royal Institute of British Architects, and this board has already signalised its approval of the new school by giving to it full recognition, which will carry with it for the successful student exemption from most of the Institute's examinations.

(*News continued on page* 417.)

The Architectural Association's New Premises in Bedford Square

ABOUT the middle of 1917, while occupying temporary offices in Great Smith Street, the Architectural Association had the good fortune to acquire on lease the two houses Nos. 34 and 35, Bedford Square, for their new permanent headquarters. The situation is admirable in every respect—central and convenient of access without suffering the noise and distraction of a main street, and withal dignified in architectural character, as becomes the surroundings of a great school devoted to the teaching of architecture.

To fit the premises for the occupation of the Association only such alterations as were vitally necessary were undertaken. These were commenced early in 1919, under the direction of Mr. Robert Atkinson, F.R.I.B.A., who is to be congratulated upon the great success of his work, which is now illustrated.

Bedford Square, as a distinguished writer has observed, is the most complete of the London squares, and the least spoilt of the West Central group, with a beautiful garden, fine plane trees, good, solid respectable buildings, reminiscent of the later eighteenth century, not over-ambitious nor tawdry. Artificial-stone doorways it has, and stucco fronts to the centre buildings, but treated frankly as stucco, not over-sized like Fitzroy Square, with ambitious architecture half-completed and ornament stuck on with glue, but complete on all four sides.

Built at a time when the nobility washed seldom and entertained often, the houses reflect in their immense reception rooms and mean bedrooms the domestic comfort of the days of their erection.

Powdering cupboards, so indispensable in Soho Square, are not provided; for the rest, the rooms are delightful, well lit, lofty, have beautiful marble fireplaces, and decoration of the most refined description.

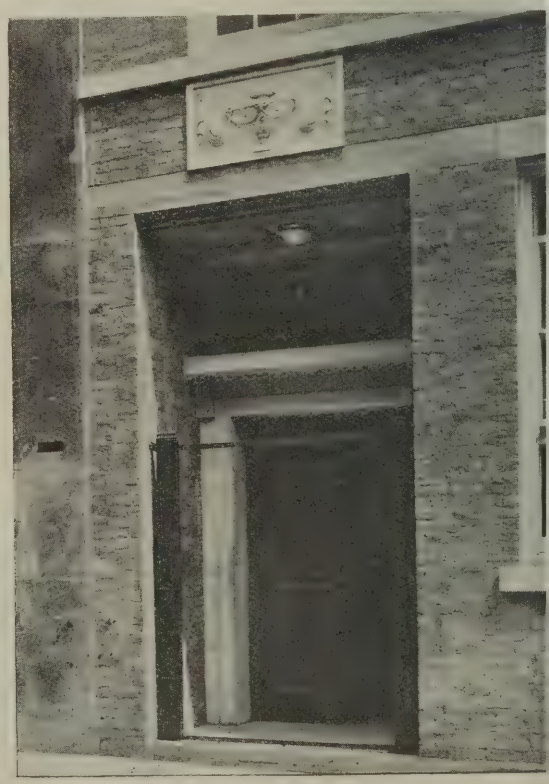
The combined frontage of the two houses is 5 The back portion abuts on Morwell Street, and a tage has been taken of this to provide a separate ent to the studios. The accommodation comprise addition to the secretary's and general office fo school, four large studios, lecture-room, art an rooms, etc., and members' club-rooms, refe library, members' room, and large meeting-room dining-room.

The premises when first taken over by the A.A a courtyard and low buildings in the rear. In ca out the alterations the existing buildings at th were pulled down, and a new block, containing large studios and a recreation-room in the basemen erected on the site. This new block is connecte the front portion by a two-storied block, the uppe of which is level with the ground floor of the B Square portion. This connecting gallery is use exhibiting casts, etc., the portion below cont cloak-room and lavatories. In dealing with th block as little as possible of the old work was dest the chief alteration being the removal of the stair No. 35 and the front portion of the party wall t height of the building.

The ground floor of the front block contai general office and secretary's office at the rear, large dining-room facing the square. The port No. 35 originally occupied by the staircase utilised as a service-room on each of the principal These service-rooms are connected to the kitch means of an electric goods lift. Direct commun between the kitchen and service to dinin is provided by a staircase built in the old cellar of No. 34.

The first floor comprises the meeting-room and l 54 ft. by 20 ft., which commands a fine view

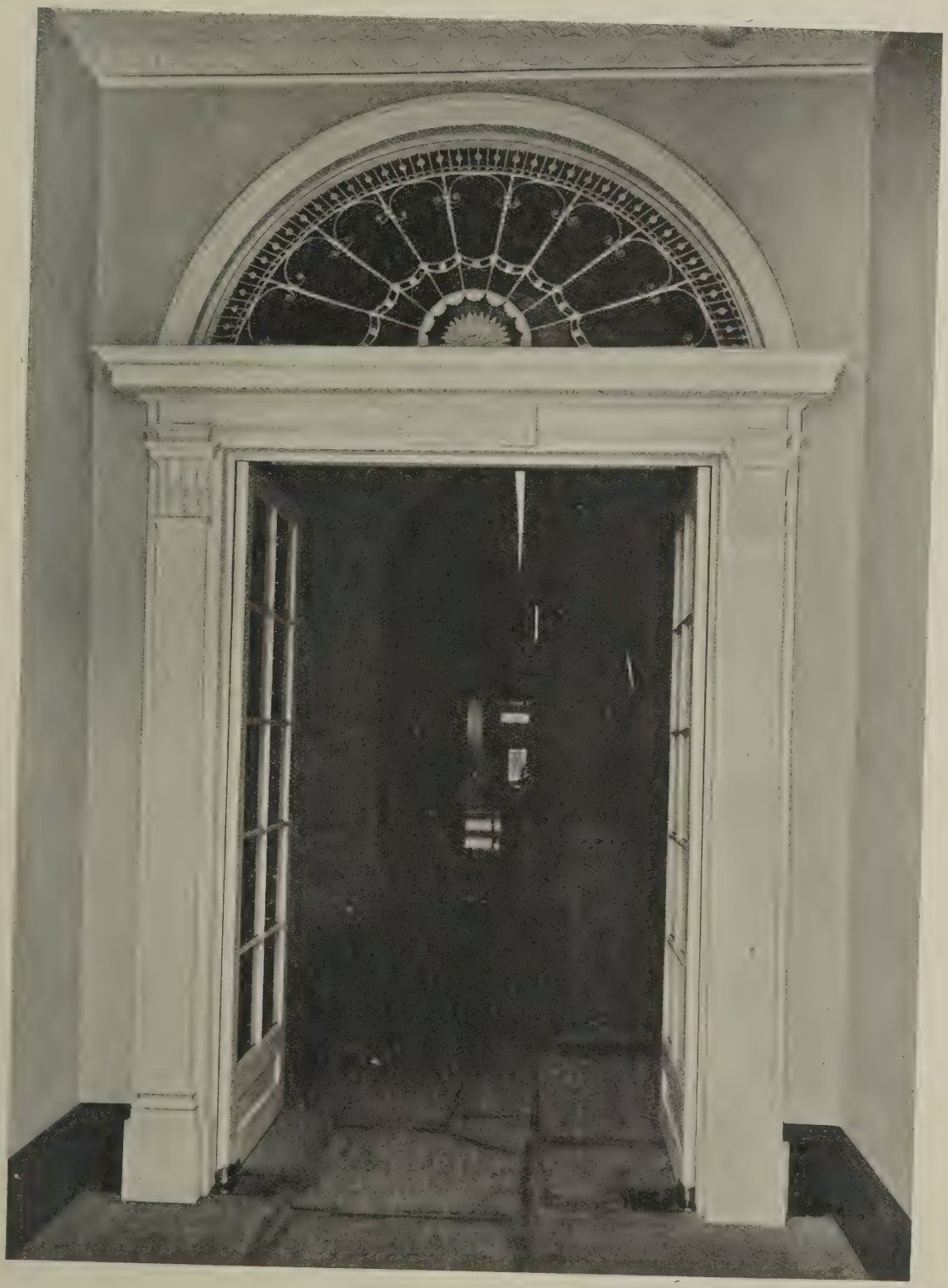
BEDFORD SQUARE ENTRANCE.



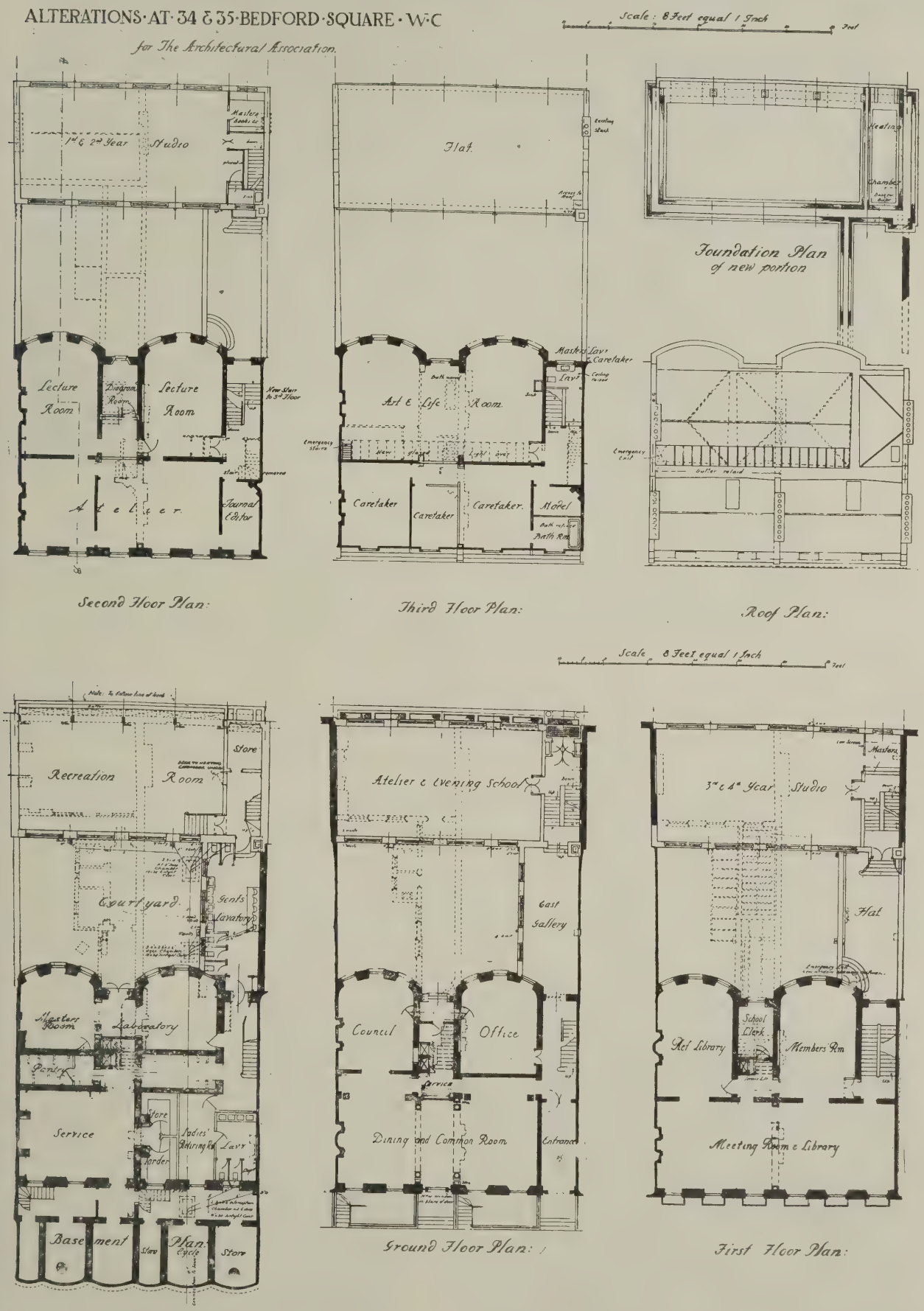
MORWELL STREET ENTRANCE.

rent Architecture. 45.—New Premises of the Architectural Association, Bedford Square: View within Entrance Doorway

Robert Atkinson, F.R.I.B.A., Architect



The adaptation of the two old houses in Bedford Square to the requirements of the Architectural Association involved the design of a certain amount of new work, including the screen within the entrance hall, which accords perfectly with the old work. The fanlight is an old one.



PLANS SHOWING ALTERATIONS TO 34 AND 35, BEDFORD SQUARE, FOR THE ARCHITECTURAL ASSOCIATION.
ROBERT ATKINSON, F.R.I.B.A., ARCHITECT.

DETAIL OF CEILING IN COMMON ROOM.

square, with reference library and members' room opening out of it.

The upper floors contain smaller studios and lecture-room, and a large top-light studio on the third floor.

Of the two houses, No. 35 retained most of its original ceilings, cornices, fireplaces, etc., whilst No. 34 had passed through a period of strong Neo-Grec, nearly all the original cornices, fireplaces, etc., having been removed. Squeezes of all the original cornices were taken, and casts from these were used as required for all new work. The front room on the first floor of No. 35, which now forms part of the meeting-room, has a fine Adam ceiling; a cast from this has been erected in the corresponding part of No. 34, and the cornices, etc., altered to match.

The decoration of this room forms part of the A.A. War Memorial, and is only partly completed at present, and only two of the bookcases which line the room have been finished. A low platform with a screw for a lantern above is provided at one end of the meeting-room. This platform can be folded back against the wall, and is covered by curtains when not in use.

It is intended to place a marble tablet above the mantelpiece with the names of all the members o A.A. who fell in the war.

The only visible alteration to the exterior i replacing of the old entrance door to No. 35 by a wi and the removal of the chimney-stacks between th houses. As No. 34 had lost most of its original win these were restored.

A complete and extremely efficient system of c heating (low-pressure hot water) has been ins throughout the entire building, the heating ch being in the basement of the new block. The pip run in the recess behind the shutters to the windows

The general contractors were: Messrs. Hol Bros., Ltd., and following is a list of the sub-contr with the work for which they were responsible: M Jackson and Sons, Ltd. (decorative plaster Messrs. Waygood Otis, Ltd. (electric lift); M Anselm Odling and Sons, Ltd. (Terrazzo floors); M The Central Heating Co. (heating equipment); M Thomas Elsley, Ltd. (lead fanlight); Messrs. Bolding and Sons, Ltd., and Messrs. Mellowes an Ltd. (sanitary fittings); Messrs. H. J. Cash and Ltd. (electric wiring).

VIEW IN LIBRARY.

SECRETARY'S OFFICE.

urrent Architecture. 46.—New Premises of the Architectural Association, Bedford Square

Adapted by Robert Atkinson, F.R.I.B.A., Architect

The Library.

The Common Room.

These views show typical interiors of the reconstructed premises of the Architectural Association in Bedford Square. Both rooms face the square, and extend across the total width of the two frontages, providing very adequately for the comfort and convenience of members. It should be pointed out with regard to the library that the bookcases are not yet completed. A general description of the work is given in the article on page 398.

The Rebuilding of Regent Street

3it by bit the stucco architecture of the gency is disappearing from the west l of commercial London. Within recent rs whole sections of Regent Street and neighbourhood have been swept away, l, if the present rate of demolition conues, within a very few more years there l be little trace of those classic but ishable façades that were the characistic product of the Regency.

The reason for their disappearance is far to seek. Nash built on a scale ch, though perfectly adapted to the rements of the early nineteenth cen-y, is totally inadequate for the needs of dern commercial enterprise. Nash's rations are seldom more than three eys in height, while the generality of dern commercial buildings in London to more than twice that number, and ght is undoubtedly still on the increase.), Nash "found us all brick and left us plaster"; and while there is a natural ctance to demolish a building concted of good solid stone, stucco, by its cheapness and impermanence, seems ost to invite demolition. Good as are reasons for the destruction of so much his work, one cannot but regret its ing: for Nash contributed a valuable extremely interesting quota to the dempment of monumental architecture in country. He was without his peer in composition of façades of great length infinite variety—façades, moreover, h, when placed in juxtaposition, prod a complete unity of effect. He ght the art of street-designing up to tch of excellence that it had never hed before, and from which it has sadly fallen, as nearly all our modern oughfares make us only too painfully e.

gent Street, it is interesting to recall, designed and carried out between the 1813-16; thus its term of useful seronly just exceeds the century. The cost of the entire scheme was, approxily, a million and a half sterling, which s how economically building work l be carried out in the days of ge IV. To-day it would probably cost almost as much to build, in permanent materials, only one of Nash's monumental blocks!

NORTH-EAST CORNER OF OXFORD CIRCUS AFTER DEMOLITION

Just recently two or three further large sections of Regent Street have been demolished to make way for new buildings. One of these accommodates the new premises, still in course of erection, for Messrs. Dickins and Jones (Sir Henry Tanner, architect), while the others consist of the north-west and north-east corners of Oxford Circus, upon the latter of which palatial new buildings are to be erected for Messrs. Peter Robinson from the designs of Mr. H. Austen Hall, F.R.I.B.A. The illustrations accompanying these notes show the latter site before and after the demolition of Nash's work. The section involved, it will be seen, was typical Regency architecture, dignified and stately to the last, despite its ugly and obtrusive modern shop fronts.

The only consolation for the loss of the old work is that the designing of the new is in such competent hands as those of Sir Henry Tanner and Mr. Austen Hall, who will assuredly impart a new distinction to the architectural amenities of the West End. Both the buildings to which reference has been made are now being erected by Messrs. Higgs and Hill, Ltd., of Crown Works, Lambeth.

A. and S.A.P.U. Secretary's Tour

Mr. Charles McLachlan, A.R.I.B.A., general secretary of the Architects' and Surveyors' Assistants' Professional Union, has prepared an interesting report of his tour, on the commission of the Executive, of certain provincial centres. Although all the centres could not be visited, he says that his reception in Liverpool, Manchester, Leeds, Glasgow, Edinburgh, and Newcastle convinced him more than ever of the strength and vitality of the Union, which is even stronger in the North than in London. He says:—"Could any sceptic as to the Union's purpose and utility have accompanied me he would have come away convinced of the sanity of the so-called 'assistant,' convinced that the desire for active professional fellowship is real, convinced not only of the desire for efficiency, personal and corporate, but also that the assistant demands fair payment for the work he does, demands not only a levelling up to the higher standards at present prevailing, but also ultimately a levelling up of our professions to their proper places among the professions."

The meetings at Liverpool and Manchester were hampered by the printing

NORTH-EAST CORNER OF OXFORD CIRCUS, SHOWING THE STUCCO WORK OF JOHN NASH, NOW DEMOLISHED.

strike, which completely prevented public notice being given. As a consequence, the attendance in these two towns was less than elsewhere, but neither, under the circumstances, could be described as poor. Each was enthusiastic; each in its own way. Liverpool partakes more of the nature of the capital than its neighbour, and though here is established, through the energy of Mr. Grieve and his colleagues, the strongest of the English non-metropolitan branches, its membership is distinctly conservative.

Manchester calls a spade a spade, and I had to convince the membership that we were really moving faster in the C.E.C. than they thought we were. This branch was at first somewhat impatient; in the end, if it were possible, it seemed to outdo Liverpool in its enthusiasm to go full steam ahead with the work of recruiting.

Leeds up till now has not enjoyed the privileges of a corporate branch. On September 22, however, the branch was very definitely established, and there is not the slightest doubt that in a little while the Leeds branch will be a very serious competitor, in zeal and numbers, with its neighbours, Liverpool, Manchester, Sheffield, and Newcastle. Its recruiting area is certainly rich, including Bradford, Huddersfield, and other large West Yorkshire industrial centres.

At Glasgow there was a very well attended meeting, and in Edinburgh, where they have an almost 100 per cent. membership in the city nearly two-thirds of it was present. Glasgow listened to me tell the story of the foundation of the Union and our ideal, to Mr. Henderson, of Ayr, who told of the twenty members in that little town alone, to Mr. Mitchell, lately their secretary, now secretary to the Scottish Divisional Council, informed them that Inverness was now [illegible]orate branch, that Aberdeen was going [illegible]g, that he had the day before establishi[illegible] the Dundee branch, and that Edinburgh had triumphed; in short, that all the branch areas of Scotland were real, living branches. The Chairman (Mr. Macaulay) then read the names of the firms of architects and surveyors from the Glasgow directory, while those members were noted who would canvass them.

The Edinburgh meeting was very much better attended proportionately than any meeting we have ever held in London. The Chairman (Mr. A. H. Lamont, A.R.I.B.A.) briefly sketched the history of the branch and told of the remarkable recruiting campaign carried out there under the generalship of Mr. Cruden, the assistant secretary. I explained the objects and ideals of the Union; Mr. Mitchell spoke again on the work in Scotland and warned all his hearers against apathy, and Mr. Macaulay described the Union's exhibition of drawings at the Glasgow exhibition and the experiences of those who tended it. In proposing a vote of thanks, a young Edinburgh architect in practice said the Union should have been established thirty years ago, and urged all assistants not only to join the Union but also to become members of their local professional associations, and for the sake of their cause to make these associations alive.

There was one question asked me at this meeting which deserves every publicity. "Was the Union doing anything as to the scandal of the unlimited apprenticeship system prevailing in Scotland, whereby professional men took apprentices who, after serving their time, could on account of their numbers never be placed in the profession?" I was able to state that the Executive of the Union was taking this matter up very strongly, and realised that (1) only those fitted for the profession should be allowed to enter it, (2) the number of entrants must be strictly limited to the demands of the profession.

At Newcastle, again, as a representative from the Central Executive, I was enthusiastically received. On a Saturday night close on fifty members were present, rare testimony to the life of the branch. The walls were hung with an excellent display of architectural drawings.

This interesting account of Mr. McLachlan's tour shows how strong the Union has grown during the eighteen months of its existence. In conclusion, Mr. McLachlan states: "That the Union is representative there can be no doubt, that 95 per cent. at least of salaried architects, surveyors, and other assistants think with the Union there is also no doubt, and I should like to ask, therefore, all those who have not yet come forward to join to do so now."

Enquiries Answered

Laying a Hard Tennis Court.

E. writes: "Please inform me: (1) Where I can find the necessary information for laying down a hard or en tout cas tennis court (lawn tennis). (2) Whether it is generally considered necessary to employ a specialist firm for this work. (3) The name and address of such a firm."

—(1) We know of no book giving this information.

(2) Yes. For the formation of such courts it is advisable to have experienced workmen and expert supervision.

(3) The En Tout Cas Co., Ltd., of Syston, near Leicester.

Coaching for R.I.B.A. Exams.

J. R. W. writes: "I am desirous of studying for the A.R.I.B.A. Could you recommend a reliable firm who coach for this by correspondence? Is there any such firm in Manchester?"

—Mr. A. G. Bond, B.A., A.R.I.B.A., of 115, Gower Street, London, W.C., coaches candidates by correspondence for all the examinations of the R.I.B.A. We do not know of a firm in Manchester who undertake this work. Possibly the Secretary of the Manchester Society of Architects, 16, St. Mary's Parsonage, Manchester, could give you information on this point.

Municipal Surveyors and Housing Schemes.

A READER writes: "What fee is the Surveyor to the Council entitled to if he prepares plans and carries out housing schemes with his own staff, and are such fees paid him direct from the local rates or from the Treasury? Also, is the employment of the borough surveyor as architect for housing schemes encouraged by the Ministry?"

—In the strict sense of the word, the surveyor to the Council receives no fee, but an "allowance" according to the extra work thrown upon him, which allowance, however, must in no case exceed one-third of his salary for the year. Such payment is made, not from the rates, but from the Housing Loan received by the local authority. The Ministry leave it to the local authority as to whether the housing scheme shall be left in the hands of the borough surveyor.

Norwich Exhibition Architectural Drawing

Architectural drawings, executed some of the foremost draughtsmen in country, are to be seen at the exhibi organised by the Architects' and veyors' Assistants' Professional Unior connection with the Housing and H Life Economy Exhibition, now being at Norwich. Messrs. Edward T. Bo man, F.R.I.B.A., and Stanley J. Wea A.R.I.B.A., in the course of a critiqu the drawings, which are arranged several well-defined divisions, make following interesting observations:

Measured Drawings.

The measured drawings show exce choice of subject and all are well dr We would, however, mention those by J. Grieve, A.R.I.B.A., depicting the porch of St. Mary's, Beverley, shown a clear and firm line, the jointing of s work being carefully indicated. Als drawings of St. George's Hall, Liver drawn by Mr. F. O. Lawrence, B. (Liverpool), A.R.I.B.A., this year's de Rome winner, the draughtsmanshi method of portrayal here are of a high order.

Sketches.

We should have liked to have s larger exhibit under this heading to i this very instructive and enjoyable p our studies, which should be the recr side of the profession. There are charming little sketches by Mr. H B.A., and etchings by Mr. C. Newma worthy of note. Two panels of mc sketches by Mr. Hofer, some in penc some in colour, show draughtsmans rare excellence, and are worthy o careful study.

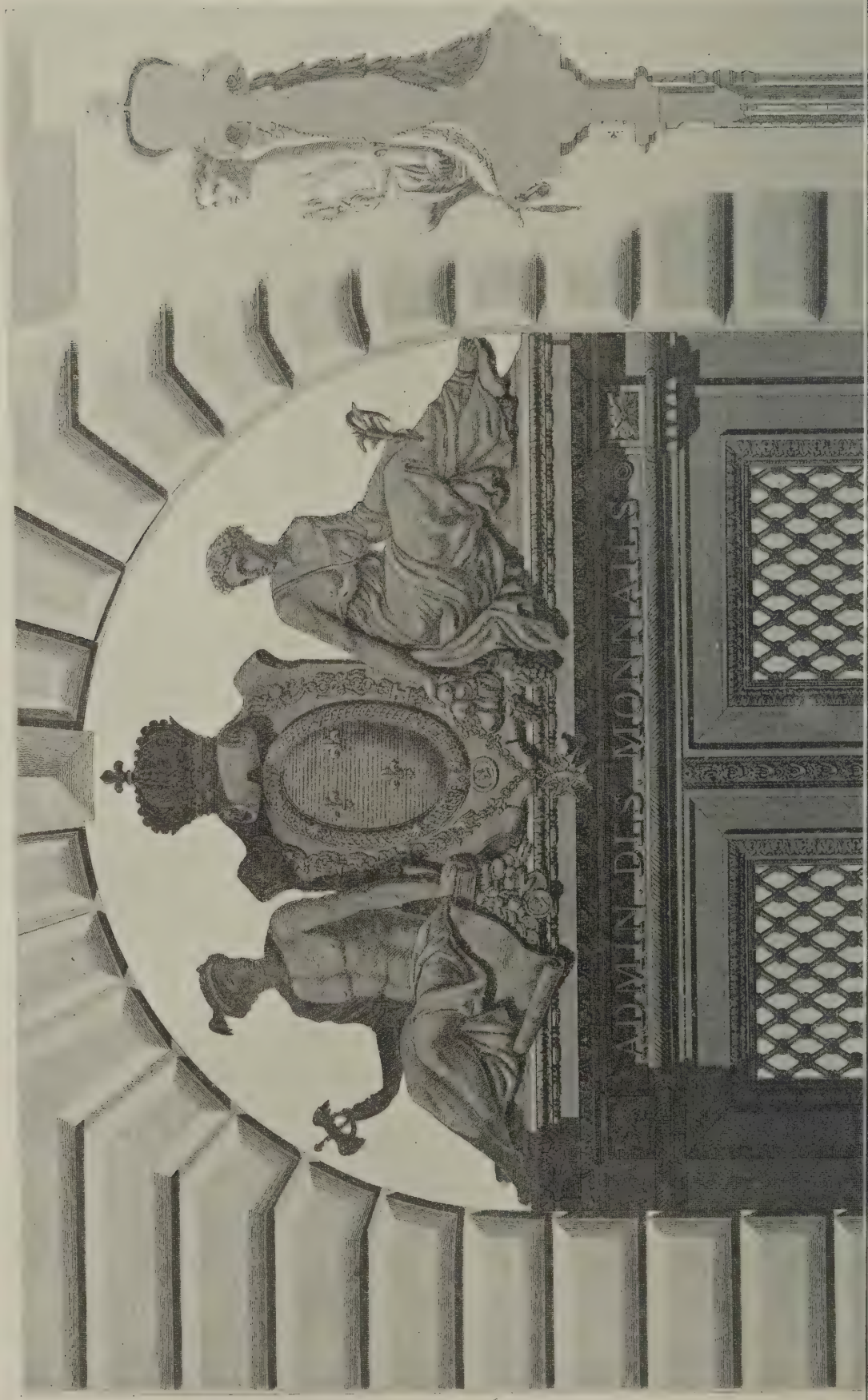
Architectural Designs.

Under the heading of "Archite Designs" there is a very excellent and much for the student to study fully. The opera house, by Mr. H (winner of the British Institution S ship in Architecture of £100 in 1 boldly conceived, and does not su the restraint of the fixed sum which so often up against in our daily prac

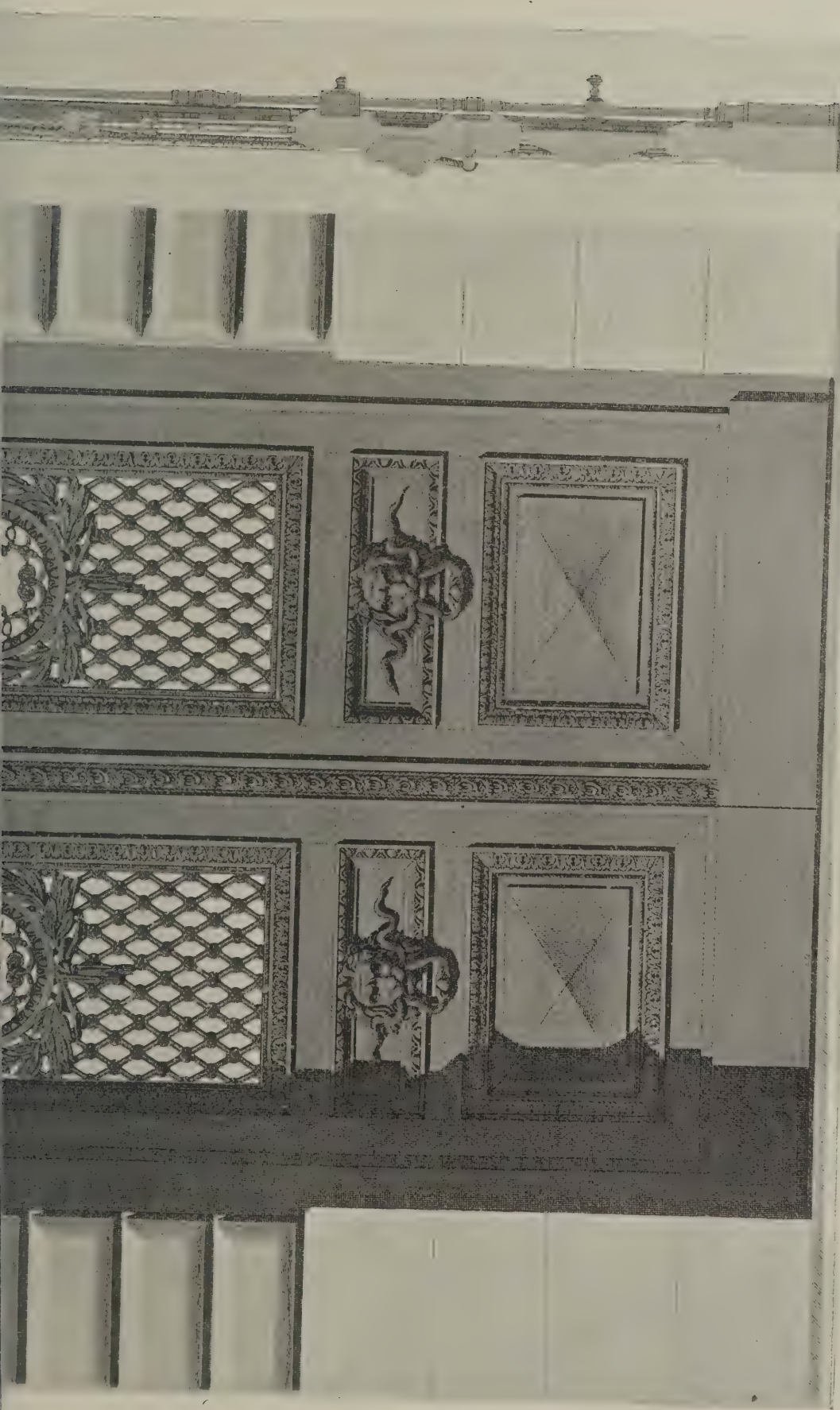
The design submitted for the R.A Medal for a town-hall, by Mr. Thomson, shows an ambitious plan delicately drawn half-inch detail associated with work from this Amongst other good sheets, some McLachlan, A.R.I.B.A., hon. secre the Association, are shown. The many other drawings which sh scope and quality of work which i done in the great architectural sch the country.

Students will do well to noti design for almshouses by Mr. Har planning being arranged on a conf round the grass court. The treatment of finishing the drawing we have noticed favoured by archi draughtsmen to-day, as the exhibit Royal Academy bear evidence.

Amongst such a well-selected drawings there is much to be le every student under the different h mentioned. A careful and detaile of the methods adopted by the d men in obtaining the effects proc an opportunity that should not be The exhibition, which is being hel Agricultural Hall, Norwich, cl October 16.



Architectural Details. 5.—Principal Entrance to the Hotel des Monnaies, Paris



M. César Daly, in his monumental work, "Motifs Historiques d'Architecture et de Sculpture d'Ornement," published in 1869, collected a wealth of ornamental motifs which has been of immense service to architects, whether in suggesting adaptations, or in stimulating inventiveness. The Louis XVI. detail here shown exemplifies the perfect union of simple general outlines and rich decorative detail. This type of work, it may be noted, influenced Sir William Chambers very considerably.

Brighton's Great New Housing Scheme

MOULSECOOMBE, where the Brighton Corporation are carrying out a large housing scheme, has recent years experienced an abnormal rease in population. During the r the Oppenheimer Diamond Polish- Factory was started for limbless and ıer soldiers invalided out of the my, and some two or three thousand soldiers are now working in this factory. e scheme comprises 478 houses of types officially known as class A (with ee bedrooms) and class B4 (with four ırooms), the whole being divided into r sections, and designed by local archi- ts. The architects for Section 1 are ssrs. Clayton and Black; for No. 2, Mr. omas Garrett; for No. 3, Mr. W. H. erton; for No. 4, Mr. E. Wallis Long, ı Professor S. D. Adshead as adviser. 'he following sizes of the rooms in one he type A houses may be quoted as cal of the accommodation provided: ing room, 17 ft. by 11 ft.; scullery, ft. by 7 ft.; parlour, 12 ft. by 10 ft.; e bedrooms, 13 ft. 9 in. by 8 ft. 6 in., t. 3 in. by 11 ft. 3 in., 9 ft. 10 in. by t. 3 in. The whole of the principal ns have hopper ventilators as well as ment windows and fireplaces. The ıroom (with a lavatory basin and hot cold water) is within easy access of bedrooms; there are cupboards in y bedroom, drawers in all kitchens, deep sinks are provided in all scul- s, with plugs and hot and cold water ıat they can be used for washing pur- s, as well as for washing-up. Gas ers can be installed if desired, a point having been run into each house for that purpose, and there will be electric light throughout.

The scheme owed much in its early stages to the indefatigable zeal of Major Clements, Housing Surveyor for Brighton, whose duties, since he left to join the Ministry of Transport, have been carried on by Mr. H. Tillstone, the present Borough Surveyor. The Ministry of Health authorities associated with the undertaking include Mr. C. H. Eyles; Mr. Walker Smith, Director of Housing; Mr. Stephen Easten, Director of Production; and Mr. C. H. Eyles, the District Commissioner. The Clerk of the Works is Mr. E. Taylor.

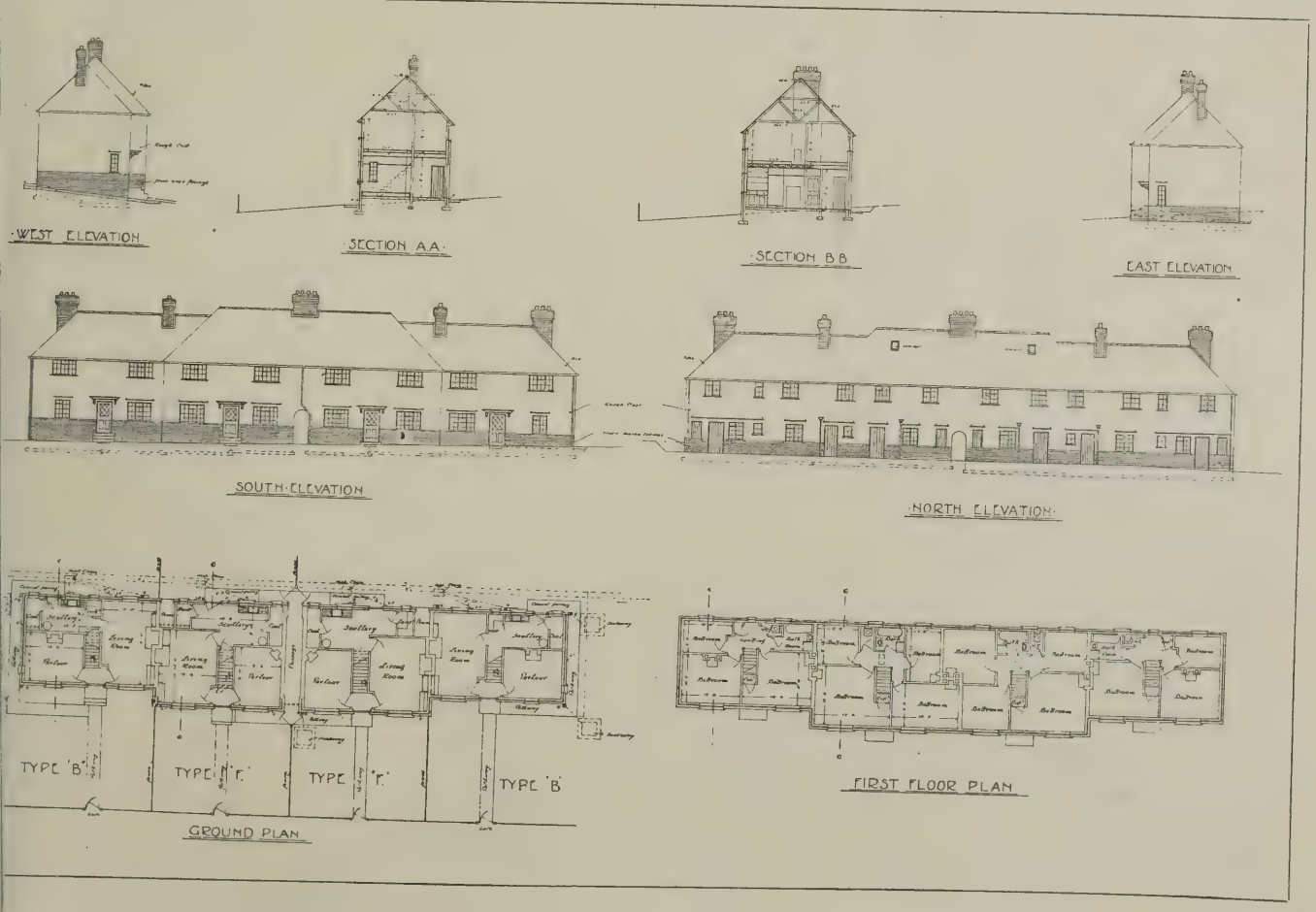
The 478 houses are to be built at a total cost of about £400,000, the price per house not to exceed approximately £930.

All the houses are being erected on the continuous cavity system. The original scheme was to build the whole of the internal walls with "Winget" concrete blocks and slabs, leaving only the outer leaf of the cavity walls to be finished in brick. The bricks proved to be a serious stumbling block, and it was not long before it was decided to complete most of the houses in concrete blocks alone. At the present date the contractors have not only dug and concreted the foundations of the whole 478 houses, but have fifty houses complete with their roofs on, and in 300 others have the brick and concrete work, together with electric conduits, up to ground floor level; while further erection is proceeding apace in a large number of these, over fifty being up to the first floor.

Messrs. Wheater, the contractors, make all their concrete blocks on the site, and the joinery as well. The whole of the timber for the job is there already, and some seventy-five carpenters are kept constantly employed in two large joiners' shops, with another dozen men in the machine shop. Such things as window frames, staircases, doors, and flooring boards are turned out in large quantities and stacked about the estate in readiness. Fixtures and fittings were ordered in immense quantities months ago, and have been pouring in to such an extent that all the dustbins—to mention one minor detail—are already on the ground for the whole 478 houses. A wet canteen and other things are provided for the men, who number about 530 altogether at the present time.

For manufacturing the concrete blocks and slabs, three depots are established in the centre of the site, each depot consisting of three "Winget" pressure machines, the whole nine being served with concrete from three "Winget" chain spade mixers—one mixer to each unit. Twenty-four men, with a foreman, working these nine pressure machines, turn out an average of 4,500 blocks per eight-hour day. Since each block is equivalent to six bricks, it follows that an output is obtained from these three units equal to 150,000 bricks a week.

The blocks at Moulsecoombe are made as wet as possible to avoid the subsequent necessity of watering the blocks after



TYPICAL HOUSES IN BRIGHTON CORPORATION'S HOUSING SCHEME AT MOULSECOOMBE.

manufacture. In four days time these blocks are hard, and are then carted away and stacked in front of the particular job allotted to them, ready for immediate use.

When the difficulty with regard to the supply of bricks arose, it was decided to experiment with a pair of houses built entirely of "Winget" blocks—save for the base, which was left with the facing bricks as before. Permission to build the experimental pair of cottages was only obtained towards the end of July. Ten days later—on August 10—the two houses were built and ready for inspection. When the newly-completed pair came to be inspected, the Housing Commissioners, borough officials, and architects alike were all so convinced that houses which were already half-way up in brick were immediately stopped and completed, just as they stood, with "Winget" blocks. When the walls had been "pebble-dashed" there was, of course, nothing on the face of the houses to show where the bricks had left off and the concrete blocks begun. It was decided—apart from the Lewes Road frontage, where architectural considerations favoured a continuance of the scheme already begun with brick on the exterior walls—to complete the whole of the remaining houses (some 350 in all) in concrete blocks throughout, apart from the brick base.

We are informed that Messrs. Wheater have induced the Smethwick Corporation, for which they have undertaken another housing contract, to employ "Winget" concrete blocks in their scheme. With another contract at Reading Messrs. Wheater, all told, have some 1,600 houses at present in hand. A bird's-eye view of the entire scheme is shown on page 415.

TYPICAL BRICK-FACED HOUSES IN ORIGINAL BRIGHTON HOUSING SCHEME.

Rolled Steel Sections for Structural Purposes

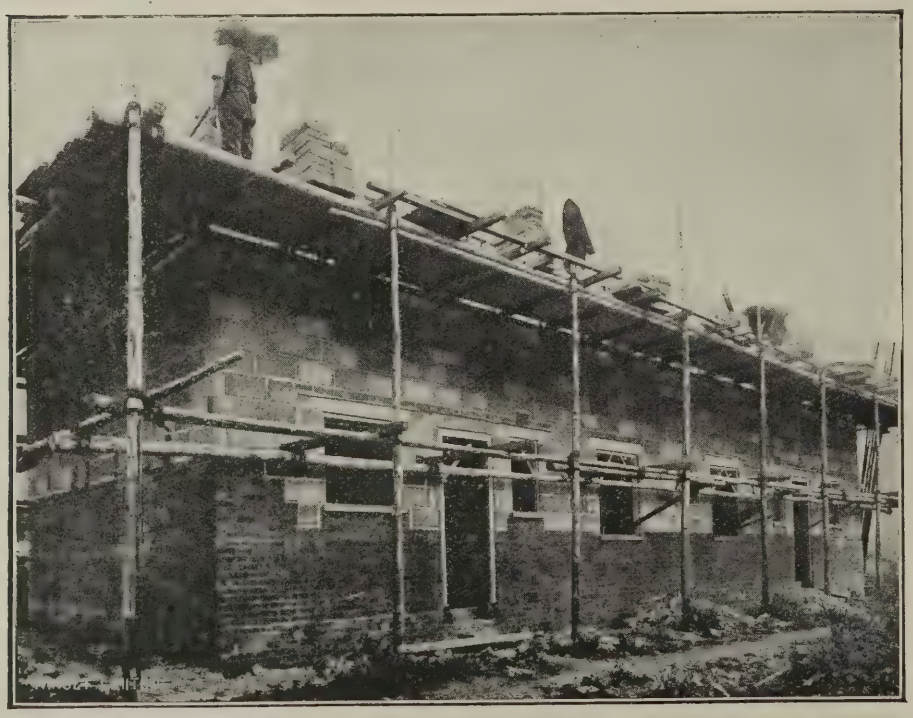
A revised edition of the lists of British Standard Rolled Steel Sections for Structural Purposes (Report No. 1, 1920) has been published, and the total number of standard sections now included is 113, a reduction of fifty-three upon that in the original lists. The beam sections have been re-designed to give a greater efficiency in comparison with weight, and are divided into two lists, namely, (6—A) girder sections, and (6—B) heavy beams and pillars. Bulb tees and zed bars are now eliminated from the standards. The form of the bulb in bulb angles and bulb plates has been considerably modified so as to give a more efficient section.

The weights per foot and sectional areas of the standard sections are given in the present report, and it is understood that the other properties of the sections, such as the moments of inertia, will be issued in a later publication.

Each series of shapes is numbered consecutively and independently, as in the original list of British Standard sections, and in order to prevent confusion with these the letter N is prefixed to the letters designating the form of section. For example, the new 8 x 4-in. beam is designated N.B.S.B.7., whereas the original section was B.S.B.13. For the same reason a new series of code words is provided for telegraphic purposes, a se code word being given for each sta thickness where more than one for a size of section is provided for in the as in the case of the angles and tee where two, and sometimes three, sta thicknesses are listed.

It is explained in the preface th standard lists would have been pub before had not a desire been expres America that agreement should be to with regard to the new sections. A ingly, the publication was delayed in that the American Engineering Sta Committee might have an opportu consulting the steel industry of the States of America as to the applicab the revised British Standards to Am practice. Considerable progress t Anglo-American agreement has a been effected, and as British Standa revised periodically it is hoped tha the present document again comes consideration further conferences w American Engineering Standards mittee may have proved fruitful, a results be incorporated in the next re

The report may be obtained fr offices of the British Engineering Sta Association, 28, Victoria Street, S.V from Messrs. Crosby, Lockwood, an 7, Stationers' Hall Court, E.C.4, 1s. 3d., post free.



"WINGET" BLOCK CONSTRUCTION SUPERIMPOSED ON BRICK-FACED WALLS.

Coming Events

WEDNESDAY, OCTOBER 13.

British Museum.—"The Sphin Pyramids and other Tombs," b Banister Fletcher, F.R.I.B.A. 4.30

THURSDAY, OCTOBER 14.

Assistants' Welfare Comm Arrangements have been made to re deputation from the Architects Surveyors' Assistants' Professional to hear their views in amplificat resolutions which the Union have relating to minimum salaries and matters.

Society of Architects, 28, B Square, W.C.1.—Special general n to receive the scrutineers' report ballot for officers and members Council, and to transact any business. Paper on "Central Hea Small Houses," by Mr. Claren Lyman, of U.S.A. 8 p.m.

FRIDAY, OCTOBER 15.

Architects' and Surveyors' Ass Professional Union, Metropolitan B —Smoking concert at the Cock T Fleet Street, E.C.4. 6.45 p.m.

Air Views of Buildings. 7.—Clifton Suspension Bridge and the Avon Gorge

Photo: Aerofilms, Ltd.

The famous suspension bridge across the Avon, designed by Brunel and commenced in 1832, was completed in 1864. It has a span of 702 feet and the roadway is 245 feet above high water; the total weight of the structure is 1,500 tons, and it is calculated to bear a burden of 9 tons per square inch. In this aerial view these data lose all significance, for the bridge seems to span the gorge with the lightness of a cobweb.

This great new housing scheme, which is now in course of erection on the Moulsecoombe Estate by the Brighton Corporation, comprises 478 houses, the whole being divided into four sections, designed by local architects. A full description of the work is given in the article which, with further illustrations, appears on page 411.

Foreign Architectural Societies

The following list of foreign architectural societies, which appears in the current issue of "The Journal of the Society of Architects," has been compiled from information supplied by Mr. W. E. Woolley, M.S.A. In France the principal Societies are federated, and in America and Canada the local Chapters are linked up with the main body on the same lines that some of the British provincial Societies are allied to the Institute.

Belgium.—Société Centrale d'Architecture de Belgique, Hôtel Ravenstein, rue Ravenstein, Brussels. Association des Architectes de Liége, 62 rue Louvrex, Liége. Société Royale d'Archéologie de Bruxelles, 11, rue Ravenstein, Brussels. Société Royale des Architectes d'Anvers, at Antwerp. Société des Architectes de Verviers, at Verviers.

France.—Société Centrale des Architectes, 8 rue Danton, Paris (6e). Société des Architectes diplômés par le Gouvernement, Paris. Société Nationale des Architectes de France, Paris. Union Syndicale des Architectes français, Paris. Société Diplômés de l'Ecole spéciale d'Architecture, Paris. Association Provinciale des Architectes français, Paris. Société des Artistes français, Palais des Beaux Arts, Paris. Société française d'Archéologie, Paris. Société Académique d'Architecture de Lyon (Monsieur F. Françon, Architect, Officier de l'Instruction Publique, Secretary). Mairie du Ve arrondissement, Lyons. Société des Architectes de la Seine-Inférieure et de l'Eure, Hôtel des Sociétés savontes, rue Saint-Lô, 40 bis, Rouen. Société des Architectes de Seine-et-Oise, Versailles. Société des Architectes d'Ille-et-Vilaine, Ecole des Beaux-Arts, rue Hoche, Rennes.

Spain.—Académie des Beaux-Arts de San Fernando, Madrid. Société Centrale des Architectes, Madrid. Association des Architectes de Catalogue, Carrer de Santa Agua, 25, Baixos, Barcelona.

Italy.—Societa degli Ingegneri e degli Architetti italiana, via delle Murette, 70, Rome.

Roumania.—For information respecting the Society of Architects established there, write M. Florian Pantelli, Architect, Calléa Dorobantilor, Bucharest.

Portugal.—Académie des Beaux-Arts, Lisbon. Société des Architectes Portugais, Palais des Beaux-Arts, rue Barata-Salgueiro, Lisbon.

Sweden.—Société des Architectes et Ingénieurs, Stockholm.

Norway.—Société des Architectes et Ingénieurs, Christiania.

Venezuela.—Sociedad de Arquitectura y Construccion du Venezuela, Sur 11, No. 52, Caracas.

Argentina.—Société Centrale des Architectes, Buenos Ayres.

Austria.—Société des Architectes et Ingénieurs, 1, Eschenbachgasse, 9, Vienna.

Hungary.—Société des Architectes et Ingénieurs, Budapest.

Mexico.—Asociacôn de Ingenieros y Arquitectos de Mexico, Avenida Guarez 12, City of Mexico, Mexico.

United States.—American Institute of Architects, The Octagon, Washington, D.C. Engineers and Architects' Association of Southern California, 405, Hosfield Building, Los Angeles, California. Engineers and Architects' Club of Louisville, 1412, Stark's Building, Louisville, Kentucky.

Japan.—Kenchiku Gakkai (The Institute of Japanese Architects), 1.1 chiome yaesucho, Koojimachiku, Tokyo.

Poland.—Stowarzyazenie Technikôw, Kolo Architektôw, Warszawa, Czackiego No. 5 (The Society (or Club) of Architects, Warsaw).

Competition News

Hillhead (New) High School, Glasgow.

New high school for Glasgow Education Authority. Assessor, Sir John J. Burnet, R.S.A., LL.D. Full particulars of this competition were published in our last issue. Closing date, November 15.

Hyde War Memorial.

Designs are invited for a war memorial to cost about £2,000. Particulars may be obtained from the Borough Surveyor, Town Hall, Hyde. Closing date, October 21.

Lille.

Extending and beautifying the city. Entrance fee, 300 francs. Available for premiums, 128,000 francs. Apply the Mayor. Competition closes October.

Liége.

Monument to commemorate the defence of Belgium against the German invader. One million francs has been subscribed for the project. Apply M. Léon Maréchal, Bureau des Beaux Arts, Hotel de Ville, Liége, Belgium.

Frodsham War Memorial.

The Frodsham War Memorial Committee invite designs for the erection of a monument to cost about £800. A premium of twenty guineas will be paid for the selected design, such sum to be merged in the commission in the event of the author being engaged to carry out the design. Plan of site and further particulars may be obtained on application to Mr. J. Geo. Aston, hon. sec. Memorial Committee. Main Street, Frodsham. Closing date October 30.

Licensed House in a Large Town.

The Worshipful Company of Brewers invite type designs for a licensed house in a large town.

The Assessor appointed is Mr. John W. Simpson, P.R.I.B.A., whose award will be final and binding. The author of the design placed first will be paid as premium the sum of £300, subject to the conditions. The authors of the design placed second and third will be paid as premiums the sums of £150 and £50 respectively. Competitors must be Fellows, Associates, or Licentiates of the R.I.B.A.

The copyright of all designs submitted will remain the property of their authors, but the Worshipful Company of Brewers reserve the right to publish the three premiated designs, with the respective authors' names attached in such form as they may decide. Should they desire to publish one or more of the designs not premiated, an honorarium of £25 will be paid to the author of each design selected in return for his permission to publish.

Designs, properly packed and addressed to "The Secretary, R.I.B.A., 9, Conduit Street, W.1," must be delivered on or before Monday, January 31, 1921.

All questions respecting the "Conditions" and "Instructions" must be sent in writing to the Secretary, R.I.B.A., at the above address, on or before Thursday, October 21, 1920.

Furniture at the Vict and Albert Museu

A number of interesting pieces o lish furniture, acquired by purcha gift, have recently been added collections of the Victoria and Museum, and are exhibited in th leries of the Department of Woodwo most valuable purchase is that English side-table with marble top date 1730-1740, of walnut wood e with carving of the finest quality- tinguished piece belonging to hitherto unrepresented in the M (Room 58). Another important p is that of an English armchair of half of the sixteenth century, carv linenfold panels and ornament Renaissance style (Room 52). gifts should be specially n pair of richly carved chairs of the Anne period, given by Sir Paul Bart. (Room 58). Of much int visitors, further, will be the Powell tion of Dolls and Dolls' Furniture 57), presented by Mr. Harry J. consisting of numerous costum dressed by members of the donor between 1754 and 1853, with an in collection of models of contempo niture and specimens of Leeds p

Labour and Hous

Dr. C. Addison, the Minister o speaking at Lewisham, stated houses now actually completed n 7,000, and that 50,000 were in stages of construction. Contra been signed, and work is in on the site of about 120,000 Reports from the provinces show instances an improvement in t with which building is being c but, taking the country as a w main difficulty was still shortage Figures show that on Septembe was an actual need for 14,735 ski of whom 8,000 were bricklayers case of Liverpool it was recently s 500 additional bricklayers wer and that bricks were lying idl ground. A similar situation Manchester, where sixty new ho now been completed, and 44 various stages of construction. August no more than one hund layers had been at work on a municipal estates. This numbe increased to about 150, but it is p that to build 2,000 houses in twel at least 300 bricklayers would be

Publications Rece

"The English Interior: A Rev Decoration of English Homes fr Times to the XIXth Century." Stratton, F.S.Antiquaries, F.R.I.B.A. Price 4 guineas. B ford, 94, High Holborn, London

"The Panelled Rooms. Vic Albert Museum." III. The I Madame de Sérilly. Price 6d. The Inlaid Room from Sizer Price 6d. net. V. The Hatto Room. Price 1s. 6d. net. H.M. Office.

"Belgium and the Wester British and American." Edited Muirhead, M.A., F.R.G.S. S and plans. 15s. net. Macmilla Ltd., St. Martin's Lane, W.C.2.

REG^D. 'PUDLO' BRAND
CEMENT WATERPROOFER

UNDERGROUND RESERVOIR FOR THE CITY OF WINNIPEG

The above photograph, taken in October 1913, depicts the southern half of this huge reservoir, which holds 18,000,000 gallons. The waterproofing powder we manufacture under the above brand was chosen for this work after the City Engineer had conducted exhaustive tests. Twelve cement waterproofing mediums were tested, amongst them being some of German and American origin. Our product was the only waterproofer which satisfactorily withstood the test, and we were awarded the contract for the supply of over 40 tons of the powder.

THE PRE-EMINENCE OF A BRITISH PRODUCT

That the authorities of this Canadian city preferred to import our product rather than purchase an article manufactured on the same continent, is most trustworthy evidence of the superiority of our manufacture.

'PUDLO' Brand Cement Waterproofer has been exported to 59 foreign countries. In some of these markets there has been strong opposition, but this remarkable powder has invariably maintained its British character as the best waterproofer. Almost every British Government Department has tested and specified it. Ten Foreign Governments use it. All scientific and practical tests prove that it cannot affect cement detrimentally even after long periods.

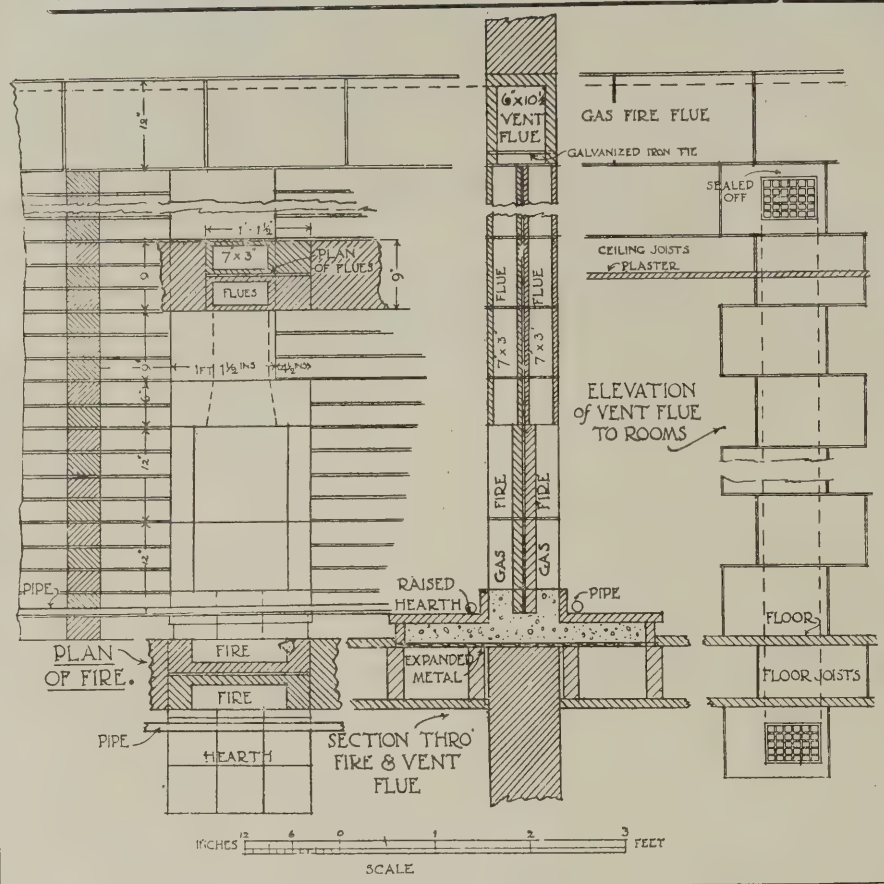
SIMPLE SAFE ECONOMICAL

Used also for Damp Walls, Flooded Cellars, Leaking Tanks, Flat Roofs, Baths, Garage Pits, Concrete Buildings, etc.
Tested by Faija, Kirkaldy, Cork University, the Japanese, Dutch, and Spanish Governments, and the most eminent experts.

Ask for the Winnipeg Test Leaflet—free. BRITISH! and, apart from Patriotism, THE BEST!

Sole Proprietors and Manufacturers, KERNER-GREENWOOD & Co., Ltd., Ann's Place, King's Lynn.
J. H. Kerner-Greenwood, Managing Director.

PARKINSON'S "Built-In" Gas Fire.



Illustrating the method of flue arrangement for "BUILT-IN" Gas Fires.

This method of House Construction will save over £30 per House in cost of bricks alone.

For further particulars apply to

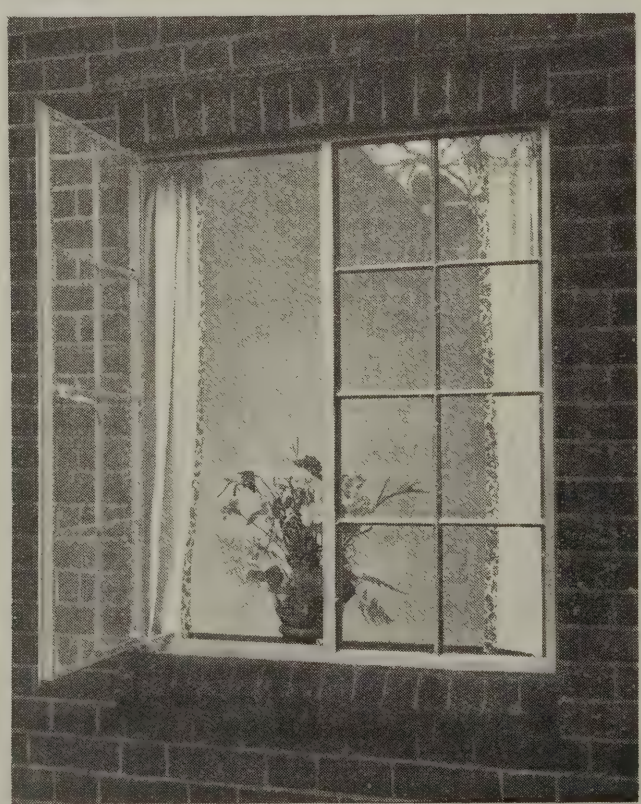
THE PARKINSON STOVE Coy., Ltd.

Works:

STECHFORD, BIRMINGHAM.

Showrooms:

129, High Holborn, London, W.C.1.



HOPES'

COTTAGE WINDOWS

Complete catalogue, with full particulars of stock sizes & details of construction, will be forwarded on application. This contains 15 designs of cottages by eminent Architects, & illustrates the application of HOPES' *Standard Cottage Windows to a large variety of material.*

The most practical & pleasant window in any situation. Low first cost—no repairs.

Apply SMETHWICK BIRMINGHAM *or 59* BERNERS ST. LONDON.

The Week's News

(Concluded from page 397)

New Clock Tower for Isleworth.
A clock tower is proposed as a war morial at Isleworth.

Housing at Epsom.
The R.D.C. are about to erect thirty-six ses at Mulgrave Road, Cheam.

Bolsover Housing.
Vork is to begin as soon as possible n the erection of 130 dwellings at Moor- l Lane.

Municipal Cement Manufacture.
proposal is afoot for the co-operation ortsmouth with other large south-coast s in the making of cement.

Housing at St. Ives.
he T.C. have decided to apply to the stry of Health for sanction to a loan of 000 for housing.

Housing at Melton.
e Ministry of Health have sanctioned n of £37,820 for the erection of work- lass dwellings at Nottingham Road.

Housing at Plymouth.
e Ministry of Health have sanctioned orrowing of £6,717 and £2,161 for and sewers of the Newport and lepath housing schemes.

Manchester Building Guild.
e Building Guild have commenced on the erection of 358 houses on the on Estate, Manchester, on garden e lines.

Scunthorpe Housing.
ay-out plan for fifty houses has been tted to the Housing Commissioner. cation is being made to the Ministry ealth for sanction to a loan of o to erect the houses.

Housing at Blackburn.
sanction of the Ministry of Health en given to the sale by the R.D.C. County Council of land at Billing- eniscowles, and Mellor for housing es.

Newark Housing.
first two new houses in connection Newark's scheme have just been d. The dwellings, of concrete, have uilt under the direction of the sur-

rshipful Company of Plumbers.
Frederick Joseph Waldo, M.D., as been elected Master of the Wor- Company of Plumbers for the en- ear; Mr. Ernest Samuel Beal, C.C., ; and Mr. J. B. Wilkinson, R.P., warden.

ss of Leicester Housing Schemes.
e 120 houses in course of erection Coleman Road Estate, it is antici- at twenty will be ready for occu- t Christmas. The Corporation are ed to contracts for housing to the amount of £570,000.

ousing at Connah's Quay.
lay-out plans, prepared by Mr. berts, architect, and approved by ncil, provision is made for 148 of which eighty-six will be of the type and sixty-two non-parlour. es will average eleven to the acre.

Pulpit at St. Mark's, Shelton.
pulpit, designed by Messrs. R. and Sons, of Hanley, and in white Hollington stone by Robert Bridgeman and Sons, of Lichfield, has been dedicated at St. Mark's Church, Shelton, as a war memorial.

St. Austell Rural Housing.
The R.D.C. have decided to apply to the Ministry of Health for sanction to borrow £188,482 for 206 houses, the second instalment of the district's schemes. The number of houses required is forty, and sixty are expected to be built in the first year.

"Luxury" Building at Warrington.
Warrington T.C. have made a prohibition order under the Housing (Additional Powers) Act in connection with the erection of a picture house in Buttermarket Street, and the extension of the central premises of the Warrington Co-operative Society.

Poole Harbour Development Scheme.
Proposals are afoot for the development of Poole as a first-class port. It is proposed to deepen the channel from the present average depth of 16 ft. to 26 ft., to permit the entry of large vessels, and to provide 18,000 ft. of new wharves, at a total cost of £3,250,000.

Flint Development Schemes.
Flint T.C. have passed plans for the erection of about seventy houses on the Chester Road. Messrs. Courtaulds have acquired a large site in the town for the erection of works, and also intend to present to the town a fully-equipped laboratory for the teaching of science.

Housing at West Ham.
At a recent meeting of the West Ham Town Council it was announced that the Corporation's Housing Bond scheme had produced £112,000, and that most of the money had come in steadily in small sums. The Council have received sanction to build 252 houses by direct labour.

Building Trades Exhibition, 1921.
Preliminary arrangements have been made for the directors of the exhibition and representatives of the Society of Architects and of the R.I.B.A. to meet and discuss an extension of the societies' activities at the 1920 Exhibition, with a view to organising the Architects' Club and Conferences on a larger scale in 1921.

Leicester Development Schemes.
Plans for the erection of 290 new houses and seven factories and workshops have been approved by the Highway Committee of the Leicester City Council since June. In addition they have passed plans for eighteen new streets and granted subsidy certificates in respect of twenty-nine houses.

Exhibition of Village Signs.
On October 15 the Duke of York will open the "Daily Mail" Exhibition of Village Signs at Australia House. The "Daily Mail" offered £2,200 in prizes for design signs, and the preliminary judging is being conducted by Sir Aston Webb, President of the Royal Academy, and Mr. Frank Brangwyn, R.A.

University of London.
Professor Dearmer is lecturing on the Fridays during the present term at the University of London, King's College, Strand, on "The Rise of Art in the West. Eleventh and Twelfth Centuries." The lectures will deal with Romanesque and Byzantesque Churches, their architecture, sculpture, and painting. The lectures, to take place at four o'clock, are free to the public, and will be illustrated with lantern slides.

Worksop War Memorial.
Progress is being made with the Worksop war memorial, which is to take the form of an extension of the Victoria Hospital. It is understood that the purchase of the glebe land has been completed, and that the conveyance of the land from the Board of Agriculture to the trustees has taken place. The committee hope to commence building the new ward block, the first part of the enlargement scheme, at an early date.

Scarborough Improvement Scheme.
An extensive scheme of improvements at Scarborough has been provisionally approved. It is intended to expend £150,000 in the construction of a lift from the Esplanade to the Spa Buildings, a new ballroom on the north end of the upper balcony capable of accommodating 1,500 to 2,000 people, a new café on the site of the present theatre, the conversion of the present Grand Hall into a theatre, and the extension of the promenade by the inclusion of land at the south of the Spa.

Manchester and a Full Working Week.
The Ministry of Health has intimated to the Manchester Housing Committee that it is not in a position to approve the guaranteeing of a full working week of forty-four hours to men engaged on the Corporation's direct labour housing scheme on Gorton Mount Estate. In spite of this the Committee is anxious to give the guarantee, even though the cost of the concession might fall upon the city rates. Without such a guarantee there is a fear that the workers engaged on the scheme may go elsewhere.

Architectural Partnership.
Major Q. Mangnall Bluhm, D.S.O., F.R.I.B.A., has entered into partnership in Manchester with Mr. Edward Hewitt, F.R.I.B.A., at Temple Chambers, 33, Brazenose Street (just out of Albert Square). Mr. Hewitt, to whom Major Bluhm was articled, has been in practice as an architect in Manchester for more than thirty-five years. Major Bluhm will still carry on his practice at Victoria Chambers, Fishergate, Preston, and at 28, The Square, St. Anne's-on-the-Sea.

Holyrood Gates.
Mr. J. Starkie Gardner has received delightful letters from the King, the Queen, and Queen Alexandra thanking him for his gift of photographs of the gates which have been erected at Holyrood Palace, Edinburgh, the National Scottish Memorial to King Edward VII. These magnificent gates, which are notable for the dignity of design and richness of detail, and which were illustrated in our issue of August 4, were executed in wrought iron by Mr. J. Starkie Gardner, of South Lambeth.

200 Houses for Chapel-en-le-Frith.
Chapel-en-le-Frith R.D.C. intend to erect about 200 houses for the working classes. In their present scheme none of the houses has more than three bedrooms, and it is found that the size of many families renders bigger houses essential. The

CONTENTS.

Edited by PROFESSOR A. E. RICHARDSON, F.R.I.B.A.

Notes and Comments: The Coal Crisis; Village Signs; The Belgian Monument, 421; Wave Transmission: A New Force; The Growing Interest in Architecture; The Threatened City Churches ... 422

Architectural Causerie: Italian Villas. By Aero 423

The Week's News 424, 445

The Belgian Memorial 425

Central Heating of Small Houses. By Clarence M. Lyman (U.S.A.) 426

The Design of the Auditorium. By J. St. Vincent Pletts 429

The Repainting of Carlton House Terrace 430

Societies and Institutions 433

The Price of Timber 434

Moving a Burnside Building ... 434

Enquiries Answered 439

"How to Get a House of Your Own" 440

A History of Artificial Lighting ... 443

Payment for "Wet" Time 444

Trade and Craft 446

Coming Events 446

Design for Stained Glass 446

Competition News 446

Current Prices of Materials . xix., xx.

Complete List of Contracts Open xxii., xxiv.

ILLUSTRATIONS:

The Earl of Charlemont ... 419

The General Post Office, Dublin. Francis Johnston, Architect ... 420

"Daily Mail" Village Sign Competition: First and Second Premiated Designs 424

The Belgian Memorial on the Victoria Embankment, London. M. Victor Rousseau, Sculptor. Sir Reginald Blomfield, R.A., Architect 425

Details of Craftsmanship. 4.—Mantelpiece in a House at Sheen, near Richmond, Surrey 427

The Design of the Auditorium (Diagrams) 429

Early Nineteenth-Century Architecture 9.—Carlton House Terrace, London: The East Wing. John Nash, Architect, Assisted by James Pennethorne ... 431

Mr. Ivor P. Jones, A.R.I.B.A., President of the South Wales Institute of Architects ... ...

Architects' Working Drawings 19.—New Office Building in Leadenhall Street and Fenchurch Street, London. A. H. Kersey, F.S.I., F.R.I.B.A., and Richardson and Gill, FF.R.I.B.A., Architects 436

Semi-Detached Houses, Sidney Parade, Dublin. Donnelly, Moore, Keefe, and Robinson, MM.S.A., Architects ... ...

Proposed Bungalow at Yardley, Birmingham ... .

Modern Domestic Architecture 20.—Proposed Bungalow at Yardley, Birmingham ... ...

Dutch Pendant. Seventeenth Century ... ...

Pendant in the French Louis VIV. Style. Designed by Andre Charles Boule ... ...

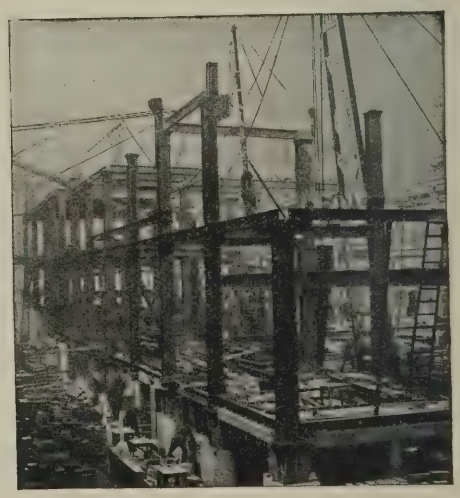
Roman Hanging Lamp (Bronze)

Design for a Stained-Glass Window. By C. W. Kelsey ...

DAWNAY DEFINITIONS—6.

PREPAREDNESS.

PREPAREDNESS is being ready for any emergency. It is a sound principle in business. Our purpose here is to tell you we are prepared for your enquiries for constructional material, service and designs. Certainty of satisfaction and promptness of delivery stand ready here for your command without fear of disillusionment.



STOCKS OF British Standard Sections in Joists, Channels, Angles, Tees, Flats, etc.

ARCHIBALD D. DAWNAY & SO Limit

Telephones: Battersea, 1094 (3 lines).

Steelworks Road, Battersea, S.W.11

Telegrams: Dawnay, Batte London."

Telephone: Cardiff, 2557.

And at East Moors, Cardiff.

Telegrams: "Dawnay, Car

Wednesday, October 20, 1920

Volume LII. No. 1346

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

THE LIBRARY OF THE UNIVERSITY OF ILLINOIS

THE EARL OF CHARLEMONT.

James Caulfeild, fourth Viscount and first Earl of Charlemont (1728-1799), born in Dublin, was a great patron of the arts, particularly architecture. The Casino at Clontarf, for example, was built for him from the design of Sir William Chambers. His house in Dublin was for many years a centre of attraction; and his bent towards the liberal and polite arts helped to give an elevation to the general tone of eighteenth century society.

27-29 Tothill Street, Westminster, S.W.1.

The General Post Office, Dublin. From an Aquatint by Thomas Malton

Francis Johnston, Architect

In the design of this building, which was erected about 1814, Johnston was very greatly influenced by Holland's East India House, which, until 1861, stood in Leadenhall Street, London. The Post Office, which is very finely shown in Malton's characteristic drawing, was gutted by

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Vednesday, October 20, 1920

Volume LII. No. 1346

Notes and Comments

The Coal Crisis

OF the coal strike, which began last Saturday, it would be unwise to say much. The moment is not propitious for calm and judicial utterance. There will be, as a thousand-and-one sters, paltering with us in a double sense, have said, rger opportunities of keeping cool when the coal runs t. The extensive distribution of this poor joke is a lcome indication of the cheery optimism with which itons always face calamity. But for that courageous irit, the situation as it stands at the moment of writing ese lines (but we are not without hope that by the time ey reach the eye of the reader the crisis may have ssed) would be of the utmost gravity. Unless that rit is maintained, and translated into action, the ire industry of the country, and everything, in fact, t depends on coal-production, must come to a standl, and the ensuing consequences are too horrible to template. Ignorance and want of imagination, her than callousness of heart, have brought us to the ge of this calamity, and the one thing to be avoided the negotiations that are to avert it—as we feel quite e that they will if they are calmly and wisely conted—is any undue display of emotion; or, to put the tter bluntly, of ill-temper. A spirit of friendliness uld prevail, as between Britons mutually anxious to rt a disaster that is nearly the worst which has ever atened our country. When the strike was no more n a menace, millions of money were lost by the pretionary stoppage of exports of coal; and simultaney with the declaration of the strike many works were ed down. The rest of them depend on the er conserved in coal, and can endure for no more a few weeks at the utmost. Gas produc can go on for a little while longer, and electy corporations seem assured that they can hold onger than the miners, supposing the strike endures. are confident, however, that it will soon cease. Quite ly the majority of the workers in other trades are prepared to face the disastrous consequences of a ral hold-up of trade, which must, if it lasts long, uce national bankruptcy and a long train of frightss whereof no man can see the end. We are ced that trade-unionists have too much sense, too kindliness of heart, and too much love of country, to it this hideous strike to run to red ruin; and that smen also will work heart and soul for industrial . By this time it has become unnecessary to on them, however, not to put their trust in the n line theory. From the first we thought it an se proposal, and the first step towards peace must s complete abandonment. We make no apology ealing at some length with these serious industrial ems as they arise; for even if they did not affect ecture more or less directly, as they all do, the ect is the better practitioner for the study of the s of citizenship and sociology, on the right interpretation of which the success of his work depends. As for the builder, he, almost more constantly than any other man, is directly affected by industrial upheavals; and it is evident, even painfully, that in the present crisis the interest of us all is more than coldly academic.

Village Signs

To village signs there is but one objection. Taste in them may deteriorate. They may become, as a rule, vastly inferior to the worst specimen shown at the exhibition which was opened at Australia House, in the Strand, on October 15, and will close on October 23. One would rather see a primitive board, with rude lettering having its S's and N's the wrong way round, than a vulgar, flashy abomination showing tremendous dexterity and no taste. Better not have any sign at all than one that would poison amenity and kill the village. Recognition of this very obvious danger may easily lead to another—the formation of some tribunal that, seeking to avoid Scylla, heads straight for Charybdis. To recommend, for instance, uniform designs for any particular county, and to brand all its villages with the selfsame label, would be to afflict the countryside with a most appalling nightmare of monotony. Lest one good custom should corrupt the county, these designs for signs should not be manufactured wholesale, with blank spaces reserved for local particulars. If each sign were made locally, it would be more likely to harmonise with the character of the village; but failing the village genius capable of an essay in graphic art that would survive the critical examination of a special committee appointed by the organised architects of the nearest town, those architects should themselves undertake to produce or to procure a suitable sign—i.e., one warranted not to frighten horses or to devastate the landscape. But with a revival of village arts and craftsmanship the man who could make light of such a task would seldom be lacking. Such a revival is by no means beyond hope; and if and when it comes it will be a bland cure for Labour unrest, which at its root is a craving for self-expression.

The Belgian Monument

Justification for a monument is often to seek as the years roll by. For example, many persons have of late asked concerning the Duke of York's Column, "Why cumbereth it the ground?" No such question can ever arise concerning the monument which the Belgians have given us in token of their gratitude for English hospitality during the German occupation of their country. Moreover, the sheer beauty of the group, which is incomparably finer than any other that the Thames Embankment can show, will always preserve it from disparagement, and probably even from the common fate of almost all statuary that is set up in London—removal to another site. A thing of beauty being a joy for ever, the public will never clamour for the transfer

of M. Victor Rousseau's splendid group, of which the surpassing loveliness and grace would soften the heart of a First Commissioner of Works in a Labour Ministry. What is really at the root of statuary unrest is ugliness. When this quality is abundant in a statue, the effigy is foredoomed to become a wanderer on the face of the earth. Judged by this criterion, several statues with which we are only too well acquainted are certainly predestined to early and frequent migration. The preposterous effigy of the Duke of Cambridge is a case in point. Neither in subject nor in treatment is it fit to stand in front of the War Office; and sooner or later it will go, for the same reason that every other ugly statue goes—because people get heartily sick of seeing it where it was first reared. The Belgian statue will always retain its position by virtue of its beautiful form, and of the beautiful spirit that brought it into being. It is rather remarkable that the three most admirably artistic speciments of statuary in London are all foreign, and are all gifts to us—the Burghers of Calais, by Rodin; the Lincoln statue, by St.-Gaudens; and now the Belgian Memorial by M. Victor Rousseau, Belgium's most famous sculptor.

Wave Transmission: A New Force

The revelation, last week, of the secret of a machine that confirmed the supremacy of the Allies in aerial warfare, may now have extraordinary effects on engineering science and practice, and it is evident that the discovery is adaptable to certain processes in which builders in general are vitally interested. It was—so an article in the "Daily Telegraph" of October 11 informs us—Mr. Walter Haddon, chairman of Messrs. W. H. Dorman and Co., Ltd., who first appreciated the possibilities of the invention (for which credit is due to a Roumanian, Mr. George Constantinesco) if applied to industry. At Stafford, powerful generators, linked to machinery and mechanical appliances, are creating wave-impulses that produce, in one case, the transmission of power that actuates rock-drills which penetrate Cornish granite. The invention does not create power, but transmits it to tools or machinery, whether reciprocal or rotary, portable or stationary. Great results are expected from its combination with electricity, and as professors of engineering are intently studying the possibilities of its application to various forms of industry, we seem to be on the eve of extraordinary developments, for which, no doubt, the science committees of the various architectural and building industries are alertly watching. Their interest will be stimulated by the fact mentioned above, that already the invention is being used for drilling Cornish granite, "than which what's harder?" as Antonio said more figuratively of Shylock's heart.

The Growing Interest in Architecture

It is delightful to find the lay Press paying so much attention to subjects related more or less closely to architecture. The current "Sphere," for instance, contains several items that imply this interest. There is a short article headed "The Passing of the Monster Houses of the Eighteenth Century," aptly illustrated with a photographic view of Stowe House, Bucks. which the Master of Kinross has announced his intention of selling after his marriage to the daughter of the village blacksmith. In a series of half a dozen excellent pictures, some of "the architectural splendours of Northern Italy" are displayed. They include the castle of the Scaligers on Lake Garda, the City of Florence as seen from the Piazzale Michelangelo, Church of San Lorenzo, at Vicenza, a view of St. Mark's at Venice, the Colosseum in Rome as seen from the Victor Emmanuel Monument, and the Court of the Doge's Palace with the four domes of St. Mark's. Then there is a scholarly note on "The Passing of Nash," of whom it is written, "Nash was not a great constructor; he had not the genius of a Wren in this regard; he was not a polished artist like Chamber his knowledge of archæology was practically nil; he ha neither the skill nor the power of a Vanbrugh. But Jol Nash, in spite of the criticism levelled against hir attempted something different from the eighteenth-ce tury vernacular; he carried street architecture one sta farther than the Scottish architects (the brothers Adam he dared what the cultured scholars Chambers and Ga don would never have sanctioned, and produced a das ing thoroughfare as broad as a river, with high banks impeccable stucco and conventional scenery, both sta ling and convincing. The foreigner was staggered, t English critic was silenced, the shopkeepers were c lighted. Nash had achieved the impossible—he h given English architecture a new character." T "note" is illustrated with two drawings by Percy How showing the houses on the east side of Waterloo Pla which have been recently demolished. A further teresting architectural feature of the number is the rep duction in colours, by permission of Messrs. Macmill and Co., of two striking illustrations from Sir Willi B. Richmond's recently published book on Assisi. Th show respectively the Bishop's throne, with the two wo derfully naturalistic lions at its back, in the Upp Church, and a fine old barn at San Damiano. It is ve gratifying to see a high-class periodical like "Sphere" recognising thus pointedly that architect is now counted among "the things that matter." Arc tecture is steadily and surely regaining its old posit as a subject of intense interest to the cultivated class

The Threatened City Churches

What of the nineteen churches that are under sente of demolition? Interest in their fate seems to have b subordinated to matters of more immediate conce Yet vigilance must be briskly and persistently ma tained if the churches are to be saved. America taking a keen interest in what is being done in matter, and in what is being left undone. Our N York contemporary "The Architectural Review," a summarising very ably an article which appeared in English namesake, agrees that these churches epiton the architecture of London, and, to an extent, Eng ecclesiastical architecture in general, for sixty year from 1670 to 1730, and that these condemned churc are the work of the greatest English architect Engl has produced since mediæval times. "We may them or not," our American contemporary contin "but they are and have been the inspiration for Ren sance spires of colonial and later work." They shoul made, our contemporary contends—and the sugges is one that we have often advanced—national mo ments endowed by the Government. "The world, especially England, has deplored the destruction of shrines of Picardy, and now London calmly propose do equal havoc—in fact, worse havoc, because it wil obliteration of her own shrines. When New Englan trying to save every landmark, however small, Mother Country is becoming utilitarian at any expe In that case, Englishmen may come to America to the ghosts of her Renaissance spires." We are not q so black as our transatlantic friend would paint us. is not London that seeks the destruction of the churches. London is trying to save them from treatment at the hands of their cruel stepmother. they and all the others go, as our contemporary darkly forebodes, we trust that the spires from w consolation will be sought in America will be more stantial than spectral. As touching the City churc however, we have by no means abandoned hope, an are glad to quote American opinion on the sub because it materially strengthens the case for defence. That such fine things as St. Mary Wool for example, should be deliberately destroyed is unth able, and Londoners must see to it that the drea intention comes to nought.

Architectural Causerie: Italian Villas

A NEW vision of the Renaissance was afforded when, a year or two ago, Mr. Guy Lowell produced his excellent book showing photographs and sketches of the smaller villas and farm-ses of Italy. It dealt with the country estate in all parts—home, garden, terraces, with outlying agri-ural buildings—and offered material of especial rest to students of building. To-day it is possible llow in the steps of Schuelt, who in 1791 explored Campagna and made entrancing sketches of ruined s that no longer exist. From the pages of Mr. ell's book and the volume of Schuelt's engravings ecueil d'Architecture en Italie," fo., 1821) can be ined a glimpse of the intimate life of the Italian from ime of Giovanni Boccaccio to the present day. No unt of Italian art can be deemed complete that does treat of villas and gardens, yet, singularly enough, important branch has in the main been left to the eur and the dilettante to describe.

* * *

e smaller Italian villa should at all times appeal with liar congruity and point to Englishmen; but at the ent juncture its study should be of considerable ce in helping to solve the problems of house-building beset us—problems that relate to villas as well as ttages. The simple designs of Italian villas offer suggestions for adaptation to our northern climate, o much in the direction of plan formation or in l as in the handling of plain surfaces and the site proportioning of parts. The keen eye of Inigo must have noted the singular contrasts of these products of the period of the senses and under-ing; and every English gentleman who travelled gh the Peninsula in the late eighteenth century ding to the directions given in the road book pub-by Battista Sassi, beguiled his journey by observ-e outlines of the farms and posthouses encountered the highway. There is a woodcut of such a hal progress forming the frontispiece to Sassi's edition of 1773, showing the delights of travelling wake of four horses with postillions and outriders, any neglected diaries in the possession of old es contain curious references to the inns and y.

* * *

ard Wilson's sketches in Italy show an occasional e of rural life in the eighteenth century, and rell, on his return from Greece, made line ms of the important towns he passed through in ise. Other pencils, moreover, were busy on the t, for Costa produced his folio volume, "Delizie me Brenta," in 1756, and the Frenchman Schuelt sy in the environs of Rome when the Terror held although his book did not make its appearance till years later. Percier followed this little-known tsman in 1809 with "Célèbres Maisons de Plais-e Rome," and Bouchet's engravings of La Villa re not issued to the public until 1837. Letarouilly, y to expectation, touches only the fringe of the , and devotes some plates to the Villa Papa Giulio ers, such as the Medici at Rome. Since his day een left for American writers to investigate the rrounding Florence and on the Brenta, and to ver Schuelt's book, with obvious advantage to c building in America. Mr. Charles Platt's d works bear witness to this.

* * *

and England, it is true, differ in nearly every of life, not only in history and religion, but in nd the physiognomy of men. Perhaps it is on ount that the contrasts in Italy make such a aim to insular notice, for at all periods during the past three centuries English artists have acknowledged their indebtedness for inspiration gleaned in the land of sunshine. The Englishman traversing Italy for the first time becomes enamoured of the mellowed tone of towns and villages, the antique look of everything, the similarity of tiled roofs, the belfries, shuttered windows, and warmth of architectural display. Henceforth for him the curiosity is increased, he breathes a rarer atmosphere, and labours incessantly to record his impressions for future reference.

* * *

The palaces of Italy are familiar to most Englishmen; not so the simple domestic architecture which is a feature of the countryside, standing in groves of orange and lemon trees or silhouetted against a background of poplars. Much of it is of venerable character, with broad walls pierced harmoniously with openings as necessity ordered and skill devised, roofs of low pitch, trabeated and arcuated loggias, balconies reticently expressed in wrought iron, and, moreover, gardens growing out of the building to which they are ancillary and homogeneous. The older buildings of England are different, especially those in the setting of the English landscape. Brick, stone, and timber form the chief part of their construction, the windows dominate and seem all-important, the roofs are of steep pitch, in some cases the permanent aspect appears cold and forbidding; they are the product of a tradition which has been worked upon unceasingly; even the later arrivals on the scene have inherited an overbearing look.

* * *

It is not possible to transport the idioms of Italian expression in building to the counties of England, but much could be done to blend some part of their grace with modern ideas of artistic handling. This truth remains; there is a bond of sympathy between the architectural aspirations of the two nations which is capable of interpretation to the benefit of our own eclectic methods. We may not agree with every example of Italian art; there is danger in pinning our faith to any particular phase, but the initiatory idea is what we should strive to emulate, the instinct of perception, good taste, and reasonableness which is rarely absent from the minor Italian works of the sixteenth and seventeenth centuries.

* * *

Turning over the pages of Schuelt's book one experiences a sense of exhilaration; there is no short method available to enable one to master the intricacies of the subject he presents other than to take pencil and paper and laboriously sketch the buildings he displays for enjoyment. Schuelt's measured drawings range from the small house at Tivoli to the little Casino at Caprarola, built by Vignola. There are drawings of the terraces and pavilions in the gardens of the Villa Farnesina, a house on the banks of the Tiber, and villas near Rome and Tivoli. In Mr. Lowell's book the first three plates are given to simple farmhouses in the neighbourhood of Florence, which have the merit of being unarchitectural in the sense that in each instance the character is direct and entirely free from self-consciousness. Seven plates are devoted to Artimino or the Villa Ferdinando, built for Ferdinando Duke of Tuscany in 1594. The story is told that the duke halted near the site during one of his hunting days, and noticing the splendid outlook across the valley commanded his architect, Bernardo Buontalenti, to design a villa there. Our author speaks regretfully of the present state of the mansion with its surrounding buildings, but his regard for this delightful estate will be generally shared.

(*To be continued.*)

The Week's News

£2,000,000 Strand Scheme

Mr. Reginald M. Phillips has completed deals with the Duchy of Lancaster and the L.C.C. for the purchase of practically the whole stretch of the Strand from the Savoy up to and including Wellington Street corner, for sums running into hundreds of thousands of pounds. Upon these sites it is proposed to spend over £2,000,000 in rebuilding.

King Edward's Statue

Westminster City Council has been approached by the First Commissioner of Works to agree to the proposed new site in Regent Street for the Napier statue, which is to be removed from Waterloo Place to make room for the statue of King Edward, now approaching completion. A site for the Napier statue half-way between Waterloo Place and Charles Street is suggested, and the Council is recommended to offer no objection.

Housing Progress

New housing schemes submitted to the Ministry during the week ended October 9, numbered twenty-four, bringing the total number of schemes submitted to 11,155. The schemes approved now number 8,237, and comprise about 54,750 acres. Fifty-one lay-out schemes were submitted, and forty-eight approved during the week, bringing the total number of lay-outs submitted to 6,327, and number approved to 5,717. House plans representing 1,705 houses were submitted and plans for 2,358 houses approved. The total number of houses represented in all the plans now submitted is 263,211 and in the plans approved 248,395. During the week tenders were submitted for 1,893 houses. Tenders 2,186 were approved, bringing the total number houses in tenders submitted to 162,065, and in ten approved to 147,678. Contracts have been signed 111,883 houses. Up to October 8 proposals had b made for the erection by local authorities and pu utility societies of 28,602 houses according to the sp methods of construction which have been approvec the Ministry. Contracts had been placed for 16,44 these houses, and were being arranged for a fur 2,337.

Picture House for Nottingham

Plans have been deposited with the Nottingham poration on behalf of a syndicate which proposes to e a cinema palace at a cost of approximately £100,000 the site formerly occupied by business premises. plans provide for seating accommodation on the gr floor for 700, and in the balcony for 300.

Progress of Private Building

The Government Grant of £260 to £230 to pr builders continues to gain in popularity, and ret show an average of over 600 new houses planned e week. Altogether certificates authorising builder proceed with the construction of houses eligible fo grant have now been issued in respect of 20,996 ho of which 688 were issued during the week en October 1. During the same week 202 houses certified as being completed, and the grant was pa the builders. Altogether 2,067 houses have been pleted, the sum paid in grants being £447,173.

(*News continued on page* 445.)

First Prize (£1,000)—St. Peter's, Thanet.
Designed by Percy G. Matthews.

Second Prize (£500).—Mayfield, Sussex.
Designed by Geoffrey Webb.

"DAILY MAIL" VILLAGE SIGN COMPETITION.

The Belgian Memorial

THE memorial presented to the British nation by the Belgian people was unveiled last week on the Victoria Embankment by Princess Clementine of Belgium in the presence of a stinguished company, which included two of our own yal ladies, Princess Christian and Princess Louise, the lgian Prime Minister, M. Delacroix, Baron Moncheur, Belgian Ambassador at St. James's, Sir George aham, British Ambassador in Brussels, Earl Curzon, Victor Rousseau (the sculptor of the memorial), Sir ginald Blomfield, R.A. (who was responsible for the hitectural setting), Sir George Frampton, R.A., Sir scombe John, R.A., and many others.

The monument, which stands immediately opposite opatra's Needle, is a vigorous and an arresting ign, comprising a symbolical sculpture group stand- upon a pedestal against an architectural screen of ple yet dignified proportions. Carved upon the gs of the screen itself are figures representing stice" and "Honour." Upon the base of the estal is the simple inscription, "To the British Nation n the Grateful People of Belgium, 1914-1918." The le monument stands upon a base of four steps, which n an effective approach. The central sculpture ip is in bronze, and the architectural screen in Port- l stone.

he sculpture has nothing of English tradition. It at a glance that it is the work not of a native t, but the product of a foreign brain and hand ted to the task of giving to Englishmen something h shall be a constant reminder of an episode in their by which they won the generous appreciation of a dly people. If it is a product of war, still, it has of the symbols and the evidences of war. Amid he great events of the war years Great Britain's tion of the distressed Belgians was perhaps a small . But a Belgian sculptor has given us a symbol elgian gratitude, and the assurance that Belgium lf will not forget.

e principal figure has the flowing drapery of mourn- The tall youth by her side, and the smaller child ude. They are her sons, the Belgians of a new ration after war. One reads in that pathetic figure elancholy story of those long years of tribulation, and in the bright young faces detects the gratitude which it is the whole intention of this monument to convey.

The central group is perhaps a little too animated—too full of movement; something rather less dynamic might have been more appropriate to the purpose and to the severely symmetrical architectural setting. M. Rousseau, who is one of the most imaginative of modern Belgian sculptors, must, however, receive full credit for a brilliant work, full of fluency and expressiveness.

The monument is a very welcome addition to the sculptural embellishments of the Embankment. Many monuments are already there, and, without exception, all in that company have been raised to individual men and women whom their compatriots have taken occasion to honour—statesmen, reformers, engineers, poets, writers. This is, more than any other thoroughfare in London, the processional way that we have adorned (not always happily, the confession must be made) with the memorials of our dead. The new monument honours no one man, but the British nation, who are grateful for the recognition of whatever service they were able to offer to a brave ally in her time of trouble.

In the course of an eloquent speech at the unveiling ceremony, M. Delacroix dwelt upon the close bond of friendship that united the British and the Belgian people. "Nature," he said, "made us neighbours; we have many economic interests in common. Belgium's independence is for England a condition of security which your statesmen have long recognised as a political need. We have the same respect for individual freedom, and at the root of our political institutions we find the capacity of a nation to govern itself. The similarity of our historical development, the many characteristics we have in common, are a favourable ground for the development of the strong friendships which were born through comradeship on the battlefield, through life under the same roof, through the fact of having suffered together and for one another. All these things create between two nations such ties as are difficult to define, but are more intimate and more lasting than those derived from formal agreements. It is with these feelings that the Government and the people of Belgium offer to the British nation this monument in token of grateful friendship to their great and faithful ally."

HE BELGIAN MEMORIAL ON THE VICTORIA EMBANKMENT, LONDON. M. VICTOR ROUSSEAU, SCULPTOR SIR REGINALD BLOMFIELD, R.A., ARCHITECT.

Central Heating of Small Houses*

By CLARENCE M. LYMAN (U.S.A.)

PRIOR to and during the war our only direct interest was in connection with our own domestic conditions, but the armistice had hardly been signed before we began to receive, both for the United Kingdom and the Continent, enquiries as to our methods of heating, and telling us by letter and through the Press of the housing plans contemplated on this side of the Atlantic. Our interest was further quickened by the receipt of drawings of several designs suggested by the Ministry of Health, and the raising of the question, "Could houses of this type be heated economically from a central source?" A careful examination of these plans disclosed fundamental differences in the construction of these houses from those built under similar conditions in the States; but from our examination (as we then saw it in America, you must remember) it seemed to us that with slight structural modifications the principles we used could be adopted, and these houses made both more convenient, sanitary, and by far more comfortable and economical during severe winter weather.

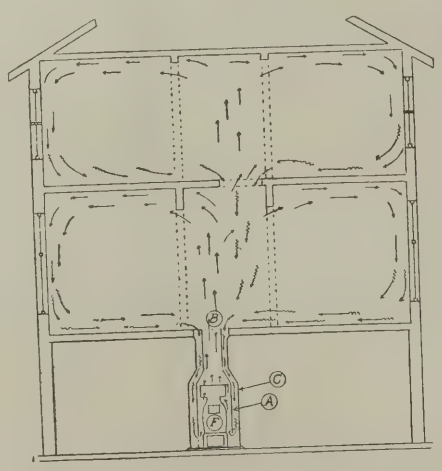
I submit that seeing a few plans, or having only a reading knowledge of climate, habits, building customs, and fuel conditions, does not fit anyone to reach accurate conclusions, and I am here, not as an American with conclusions preformed, but, if possible, to weigh carefully each element entering into the equation, and see if the value of x (which is at present our unknown quantity) is the same here as we have proven it to be in the States.

First, let me say that my definition of central heating contemplates the warming of the entire house, except the kitchen or scullery, from one fire, and my definition of "small house" covers houses having from six to twelve or fourteen rooms. I have not planned to consider working men's cottages of the very smallest type, as these are usually heated, I think, from the same fire which does the cooking. Neither am I contemplating flat buildings or apartments; but the types of bungalow cottages, detached and semi-detached houses, that make the homes of our solid, substantial middle-classes—the sinew and bone of any nation, whether on this or on the other side of the Atlantic. I shall confine my study to one method of heating only, that by the circulation of warmed air. This in no way reflects upon heating by steam, vapour, or hot water—each of these methods has its legitimate field—but I am limiting the kind of home under discussion, so I shall confine my study to this one system, which we call in America the one pipe system.

Heating by the one pipe system, as practised in the States, simply makes use of two well-known facts in physics: That air, which is not heated at all by radiant rays, is readily warmed by convection. In being heated it expands, and thus, being lighter, is dispersed by the colder strata; so that assuming a source of heat with free access to it of cooler air and an equally free exit for the heated air, a circulation will be set up and maintained which will warm the entire house. That you may visualise the principle in its simplest form, I call your attention to the diagram below. This represents in cross section the simplest type of a house. No attempt is made to introduce any detail. Here you have a furnace, or, as some of you call it here, a stove, set within a casing (A) and located in the basement or cellar. This is provided with a discharge at (B). Surrounding this casing, and at some distance from it, is another casing (C) which also opens at the ground floor level. It is obvious that if the castings (F) are heated, the air impinging on the castings will be quickly warmed by convection. As it is free to rise as it expands, the colder air between (A) and (C), being heavier, volume for volume, will fall, forcing the heated column out at (B).

The warm air rises to the highest points of the rooms and up through the stairway, until it mushrooms out at the ceilings, displacing the cooler air which falls to a lower level. This cooler air being free to seek the lowest level travels along the floor, and falling then between the two casings establishes a circulation. This circulation will be continuous just as long as there is any heat within the furnace to raise the temperature of the air, and so destroy the equilibrium between the heated and cool columns. To forestall any criticism at this point, let me say that I am not attempting to prove that the air travels in currents exactly in accordance with the lines shown by the arrows. We all know that conflicting currents, variations of wind pressure, and various other causes, may vary the exact lines of circulation.

This simply illustrates the principle. What concerns us here is its practical application. I should like to trace the development of heating through the use of the warm air furnace, steam, hot water, and vapour down to this latest method of one pipe heating, as it has been worked out in the States; but, confining myself, as I must, to this one system, let me say that no new principle is evolved; there is nothing on which any one could claim a basic patent, the only wonder is that a system so simple should not have been developed years before it was. Only a few engineering facts are really necessary in working out the problem. Given the number of pounds of coal to be burned per hour per square foot of grate surface in the severest weather, it was easily possible to calculate the number of B.T.U.



evolved. Assuming a design of appa that would utilise by emulation 60 t per cent. of the B.T.U. evolved, it then possible to calculate the numbe cubic feet of air that could be r through a certain number of de difference in temperature.

The only other factor then to be sidered was the velocity of air und known average head and the nece proportions of inlet and outlet req to deliver that air with the least fri The air must circulate everywhere u hindered by a partition, or interfere in some way by conflicting current

But I feel sure that some of yo already saying to yourselves, "That very nice in theory, but it will not out in practice." I do not in the wonder at this, for I took the sam tude myself. Indeed, I was once positive that it was not comme practical. So, if it should require o even two years for some of you to the idea, or, if you accept it now wi reservation that you must be show will still have been running true to for, with the training of a quarter century in heating practice and the required a forcible jolt to dislodge very decided preconceived ideas own case.

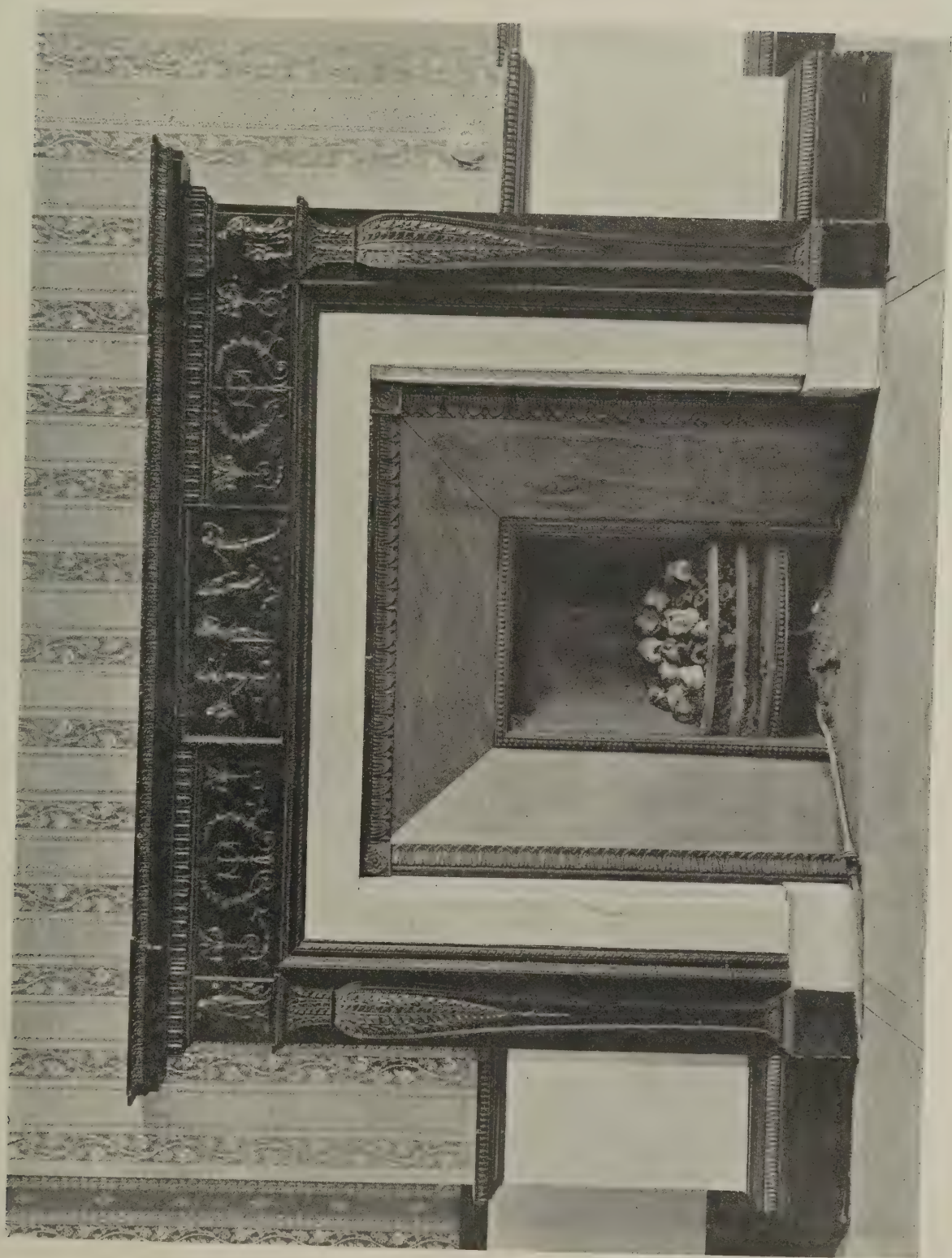
May I, before taking up a few s to indicate what my study of small here has led me to suggest, digres moment to consider what, I thin also have occurred to you—that our differ in construction. Your home the small ones, are much more so substantial than the vast majority the reason being, I assume, tha has been, in the past, our most ab and economical building mater think that our homes, too, as a have more glass exposure, more ve or porticoes, and fewer doors with

I am told again and again he "the Englishman loves his priva wants the doors kept closed." I pared to believe it, for I do not he can keep warm in cold weathe he does close them, with the system of grate fires. I am not s but that I can remember when we most homes, were compelled t privacy" for the same reason.

Only one objection that I have seemed to me to be at all serious, is that all such installations r basement or cellar. I have no wa of checking costs in England checking some English des America in collaboration with engineer we reported as "Although unfamiliar with buil in England we are confident slight additional cost of excavati cellar, or basement, for the heate offset in full by the lessened cost ney or fireplace construction, the same time provide additional storage place." Since coming h inclined to modify that statemen extent, that probably an Eng tractor would build the chimney places at less cost than an Amer tractor, while he, on the other ha excavate and lay up the cellar wa expense than his English broth

* Extracts from a paper read before a meeting, on October 14, of the Society of Architects.

Richmond, Surrey



Of the 1785 period, this mantelpiece, in the style of Robert Adam, charms by the grace of its general proportions and the delicacy of its detail.

THE
ITY OF ILLINOIS

The Design of the Auditorium

By J. ST. VINCENT PLETTS

HAVING recently found myself in a place of entertainment where I could only see and hear with ficulty, I began to consider the causes those difficulties and the principles ich should be followed in the construc- n of auditoriums in order to avoid em. It was obvious that the feet of the ncers were partially obscured by the ads of the audience in front of me, and t the Japanese acrobat was invisible en at the top of his ladder because of gallery above me, and it seemed to that the difficulty of hearing was inly due to the ceiling formed by gallery keeping in and exaggerating many small noises around me. In at follows I give the principles which, eems to me, ought to underlie the ign of auditoriums. I do not know ether the subject has been theoretically sidered before, but if it has the ciples are certainly not universally d upon.

onsidering first the proper shape for floor of an auditorium, let O (Fig. 1) he point of which an uninterrupted y is required, and E_1, E_2, E_3 be the of three members of the audience ed one behin i the other in the plane e paper. Then if E_1T_1 is the distance een the eyes and the top of the head, clear that the line OE_2 must pass igh T_1, the line OE_3 through T_2, and n, in order that each member of the ence may have an uninterrupted view ne point O. Let the ratio of the ant height E_2T_2 to the constant hori- l distance T_1S be represented by a, hen, taking our origin at O, we have ne curve passing through $T_1T_2T_3$:—

$$\frac{dy}{dx} = \frac{ST_2}{T_1S}$$

$$= \frac{SE_2 + E_2T_2}{T_1S}$$

$$= \tan\theta + a$$

e $y = x \tan\theta$, and therefore:—

$$x\frac{d\tan\theta}{dx} = a$$

$$\tan\theta = a \log x + y_1$$

$$y = ax \log x + y_1x$$

y_1 is the value of y when $x = 1$.

m this, which is the equation of the passing through the tops of the of the audience, we can obtain that g through the eyes, the seats, or or by subtracting from the values ed for y the distance between the the head of any such place. Or me result may be obtained more by merely raising the point O h this distance, so that it is only ary to consider the one equation.

first thing to determine is the f the constant a, which is the ratio istance between the eyes and the the head to the distance between s of seats. I find that the former e is about 5 inches and the latter o to 36 inches, so that $a = .15$ appear to be about the proper In figure 2 I have drawn the or various values of a with $y_1 = 0$, vill be evident at once that that for 5 is a good deal steeper than is y met with in practice. Indeed I

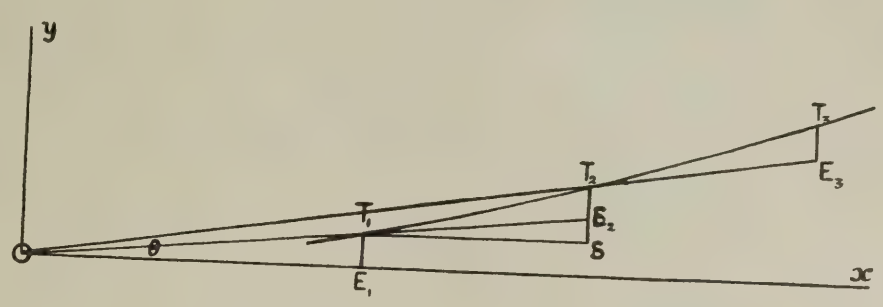


Fig: 1.

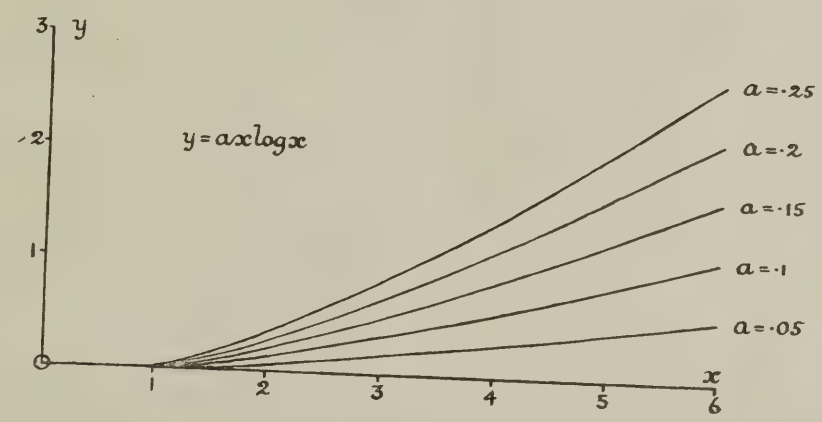


Fig: 2.

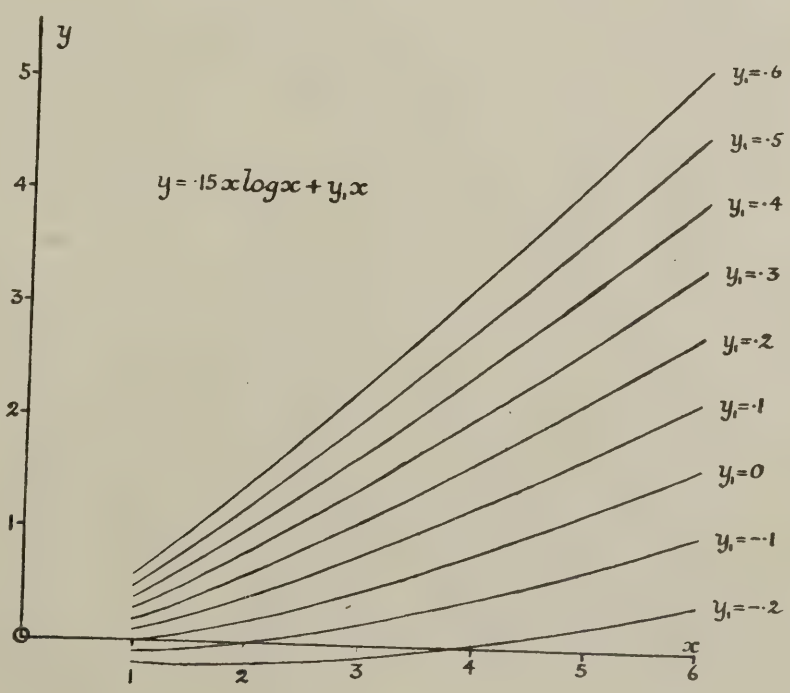


Fig: 3.

DIAGRAMS ILLUSTRATING THEORY OF AUDITORIUM DESIGN.

have found that in many theatres the value of a is no greater than .05, while in some it appears to be actually zero. As the satisfactory design of a theatre with galleries necessitates a small value for this constant, the seats may be arranged so that each individual looks between the heads of those in the row immediately in front and over the heads of those two rows in front. With such an arrangement the value of the constant may be reduced, and halved at some distance from the stage, without spoiling the uninterrupted view. On the other hand I think that $a = .25$ is none too great for lecture theatres, where it is essential that youthful students (who vary more in size than adults) should have an absolutely clear view.

The next thing to determine is the value of the constant y_1, and in Fig. 3 I have drawn the curves for various values of y_1, with $a = .15$. These are of course the curves from which equally good views of the point O are obtained, so that the ground floor and each of the galleries are determined by a value of the constant y_1. But though these values must obviously be selected to suit each particular case, there are predeterminable limits between which they must lie. The upper limit will be imposed by the maximum allowable steepness of the floor. If ϕ be the angle which the curve makes with the horizontal :—

$$\tan \phi = a \log x + a + y_1$$

so that the maximum value of y_1 is given by :—

$$\bar{y}_1 = \tan \bar{\phi} - a (1 + \log l)$$

where l is the length of the auditorium. If an individual in the front row is to see right to the back of a horizontal stage the minimum value of y_1 will be zero, though in the case of a slanting stage, and still more in the case of a cinema where there is only a vertical screen, y_1 may have a negative value for the ground floor. Having selected the curve for any floor, the fact that an individual in the back row must have an uninterrupted view of the top of the proscenium opening will fix the front of the gallery above.

The properties so far considered are those of a spectatorium rather than of an auditorium, and it seems to me that it would be a great advantage from the standpoint of audition if the vertical section of the ceiling formed by each gallery was an ellipse with one focus on the stage and the other well back and below the audience underneath.

The foregoing has dealt only with the elevation, but there are also some important points in connection with the plan of an auditorium. The best shape for audition would undoubtedly be an ellipse with one focus on the stage and the other well towards the back, while the arrangement of the rows of seats also requires consideration. It will obviously be best if the line of sight of each individual, when looking straight in front, bisects the angle subtended at his eyes by the proscenium opening; that is to say if each row of seats is an ellipse with the foci at the sides of the proscenium opening.

Such a design would, I think, be a considerable improvement on existing designs, and it would still be possible to provide boxes, which, so long as there are people willing to pay large sums to be seen rather than to see, must be regarded as in any ordinary theatre.

The Repainting of Carlton House Terrace

Though stucco, by its essential impermanence, is an undesirable material for buildings designed to endure for an indefinite length of time, it has distinct advantages over more lasting materials from the hygienic point of view. Thus, while stone and brick buildings continue to accumulate grime and filth with the passing years—deposits which, by the way, are difficult and expensive to remove—stucco, by the simple operations of cleaning down and repainting, may renew its youth as often as such a transformation becomes desirable. The gain to cleanliness, to scenic brightness, and to the amenities generally after such a repainting operation is always considerable. Regent Street used to be one of the freshest and most stimulating sights imaginable just after its annual spring-clean.

Though many of the "improvements of the Regency Period" have long since disappeared, and others are rapidly following into the limbo of forgotten things, Carlton House Terrace continues to endure—probably will go on enduring indefinitely because of its purely residential character: it is difficult to imagine the sacred precincts ever being invaded by the restless tide of commercial enterp The recent repainting of the great co naded fronts is, at all events, a reassu sign.

Carlton House Terrace was designe John Nash, in conjunction with nephew, James Pennethorne, in under whom, however, only the east was carried out, the corresponding on the other side of the Duke of Y steps, being of subsequent date. scheme is immense in scale and of dignity and impressiveness. Mc indeed, when in London some years thought it the best example of m mental planning and building in Metropolis. The great Corinthian c nades contrast very effectively with sturdy Doric order supporting the jecting promenades and the return the Duke of York's steps are an a able foil to the wholly columnar treat of the Mall fronts.

The illustrations which we give i issue show the east block during and the recent painting operations, which carried out by Messrs. Walter Law and Son. To cover the great surfa these huge façades involved the u nearly twenty tons of "Nine Elms" paint, which was supplied by the known paint manufacturers, Messr and W. Farmiloe, Ltd.

CARLTON HOUSE TERRACE DURING REPAINTING OPERATIONS.

The East Wing

John Nash, Architect, assisted by James Pennethorne

Carlton House Terrace was designed and carried out in 1828. Architecturally it is extremely dignified and impressive, the great Corinthian colonnade contrasting very effectively with the sturdy Doric order at the lower level. The two great monumental blocks composing the terrace have recently been repainted under the direction of Mr. Lionel Barrett, architect. Some particulars of this work are given on the opposite page.

Societies and Institutions

tlett School of Architecture

ıe Bartlett School of Architecture, in-
ng the Department of Town Planning
niversity College, has commenced its
term for the session 1920-21.

ıiversity College, owing to its central
ion, its engineering laboratories,
e school of fine art, new sculpture
os, school of hygiene, department of
eology, and lectures and classes on
ral subjects, offers special facilities for
l and comprehensive course of archi-
ral education on a sound basis. The
ntages to be gained by students
ding lectures and classes in other de-
nents are manifest. They are
ght into touch with students engaged
her, but to some extent kindred, pur-
; they work side by side with future
neers, painters, and sculptors. In
ctures on general subjects and in the
giate life they meet students intend-
o follow other professions or callings.
general intercourse is not only ad-
geous to architectural students during
eriod of their early study, but is likely
of lasting benefit to them.

e correlation of many subjects bear-
ıltimately upon design engages the
ion of the academic staff, whose
it is to interest the students in pro-
of real building founded upon his-
l tradition. The courses are com-
nsive; no one subject is given undue
nence as all are closely related.

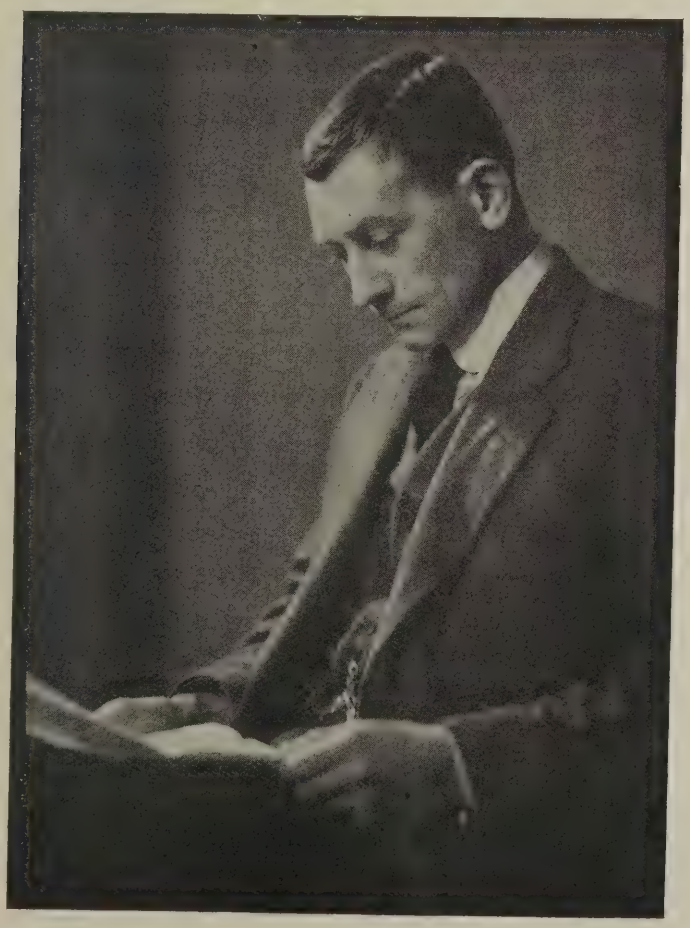
Students are encouraged to study existing buildings both English and foreign, and modern achievement in other countries also comes under review. The theory of construction and materials, of hygiene, heating, and other matters of modern practice are carefully studied, special classes and demonstrations being arranged to bring the student into close touch with essential requirements. Highly specialised aspects of construction are made plain to students to whom the engineering laboratory is open, and architectural drawing is fully dealt with in the architectural studio, but, in addition, students sufficiently advanced may draw from the life in the Slade School. The teaching of modelling is carried on in new studios adjoining both the School of Architecture and the Slade School.

The following courses are provided: (1) The B.A. Degree Course (Honours in Architecture) of the University, (2) the Certificate Course in Architecture, (3) Advanced Design Class, (4) Evening Courses in Design and Academic Design, (5) the Atelier, (6) Certificate Course in Town Planning, (7) Diploma Course in Town Planning and Civic Architecture, (8) Diploma Course in Town Planning and Civic Engineering.

An atelier, under the directorship of Professor A. E. Richardson, F.R.I.B.A., assisted by Mr. James Burford, A.R.I.B.A., for the study of advanced architectural design, is open to those who have obtained the degree of Bachelor of Arts (Architecture) in the University of London, to those who have obtained the Certificate of Architecture of the School, and to others who have reached a standard of efficiency approved by the Director. The evening classes provide special facilities for those who have to work in offices during the daytime.

The Department of Town Planning provides systematic courses of training for those who desire to acquire expert knowledge in the laying-out of towns. Architectural and engineering students who have already had their general training in architecture or engineering, as the case may be, are advised to proceed to a course in town planning. The lectures and courses will include town planning, civic architecture and landscape design, town furnishing, planting, municipal engineering, and municipal law. In the studio the different methods of draughtsmanship will be fully demonstrated, and not only as regards setting up, but also as regards rendering in monotone or colour. The teaching of draughtsmanship in its higher branches will form an important part of the work done in the studio.

The staff includes the following: Architecture, Messrs. A. E. Richardson, F.R.I.B.A., Professor; Arthur Stratton, F.S.A., F.R.I.B.A., Reader in Architecture; Martin Briggs, F.R.I.B.A., Lecturer in Building Construction; James Burford, A.R.I.B.A., and Arthur E. Henderson, F.S.A., R.B.A., Assistants; and E. P. B. Musman, B.A., A.R.I.B.A., Assistant in the Evening School. Town Planning, Professor S. D. Adshead, M.A., F.R.I.B.A. Painting and Sculpture, Messrs. H. Tonks, Slade Professor; Havard Thomas, Professor of Sculpture; T. Borenius, Ph.D., Lecturer, History of Art, and W. W. Russell, A.R.A., Assistant Professor. Archæology, Yates Professor E. A. Gardner, Litt.D. All communications should be addressed to the Secretary, University College, London.



MR. IVOR P. JONES, A.R.I B.A., PRESIDENT OF THE SOUTH WALES INSTITUTE OF ARCHITECTS.

The South Wales Institute of Architects

The thirtieth annual report of the South Wales Institute of Architects, of which we have just received a copy, is a publication that does great credit to that very alert and progressive body. Well printed on paper of excellent quality, it contains a full and informative survey of the Society's various activities, as well as a portrait of its popular president, Mr. Ivor P. Jones, A.R.I.B.A., who has been elected to that office for a second time.

In his presidential address, of which a report is included, Mr. Jones gives an interesting account of his efforts to strengthen the influence and increase the usefulness of the South Wales Society, and it is gratifying to note that, by the formation of Central, Western, Eastern, and Northern branches, the membership has already more than doubled since last year.

The report is full of useful information for the architect in the course of his professional practice, and should do much still further to increase the power and prestige of the South Wales Institute.

The principal officers for 1920-21 are as follows: Vice-president, J. Cook Rees,

O.B.E., M.S.A. (Neath); hon. secretary, C. H. Kempthorne, Licentiate R.I.B.A. (Cardiff); hon. treasurer, H. Teather, F.R.I.B.A. (Cardiff); hon. auditor, H. C. Portsmouth, M.S.A. (Swansea); hon. librarian, Percy E. Thomas, O.B.E., A.R.I.B.A. (Cardiff).

A large number of members of the Western Branch of the South Wales Institute of Architects have paid a visit to Margam Park and Church. The party inspected, among other things, the collection of stone crosses and sepulchral slabs. Afterwards they were conducted to the abbey ruins and the orangery. The party were interested in the "pavilion"—attributed to Inigo Jones—which now acts as a screen wall to a gardener's cottage. After leaving Margam the visitors drove to Port Talbot. Among those present were Messrs. H. C. Portsmouth, J. Herbert Jones, H. A. Ellis, and O. S. Portsmouth (Swansea), J. Cook Rees (Neath), and T. Gibb (Port Talbot).

The Architectural Association's School

The Architectural Association's School has commenced the new session under very promising conditions. The school, which has always enjoyed great popularity amongst the profession, shows signs of becoming even more popular than ever, and the number of students at present in the school constitutes a record. Considering the welfare of the profession generally, the Council decided at the end of last session to make stringent regulations for the admittance of students, and the whole of the public schools and other schools of the country were circularised to this effect, with a request that more attention should be given to drawing and mathematics in the training of pupils.

An Entrance Examination has now been instituted, and all students wishing to enter the school have to pass this examination. As a result of this decision, a certain number of applicants for admission this session withdrew their applications, and a few who were unable to pass were refused admission. The fourth- and fifth-year courses, which were commenced last year, and which have now received recognition by the R.I.B.A., are attracting many students. These courses are for half-time, the idea being that students would spend six months of the year in school, and six months either in an architect's office or on buildings as assistant clerk of works. At the end of the five-years' course, subject to satisfactory work being done, the students are exempted from the Final Examination of the R.I.B.A., with the exception of the professional practice section.

The Society of Architects has rendered considerable assistance to the Association by granting the use of its atelier for the A.A. atelier students for the time being. The atelier, which is under the mastership of Mr. A. C. Bradshaw, is open to all students who are able to give satisfactory evidence that they have reached a good standard of general architectural education, and application should be made immediately by those who wish to be admitted.

The new premises in Bedford Square, which were fully illustrated in our last issue, are very completely equipped for the work of architectural education. The social side is also provided for, students enjoying many of the comforts and conveniences of a well-appointed club.

The Price of Timber

From the evidence which has been submitted to the Sectional Committee on Timber of the Building Materials Sub-Committee appointed by the Standing Committees on the Investigation of Prices and the Standing Committee on Trusts, it appears that there is in the timber trade a combination of Scandinavian shippers. The Committee state (a) that this combination, composed of Swedish and Finnish firms, undoubtedly controls the f.o.b. price of timber, and, with Russia a negligible quantity as regards supply, the operations of this combination may have a far-reaching effect on the ultimate price of timber. Appended are further findings and conclusions of the Committee:

There is no evidence of the existence of a trust or combination so far as the importers and merchants engaged in the wholesale trade in this country are concerned. Generally speaking, merchants' prices have been increased to give a similar percentage of profit to that in practice pre-war. Pre-war profits might be taken at 25s. to 30s. per standard, whereas the profit to-day is from £5 to £6 per standard. One case came under our notice where pine was bought at £55 per standard from the Timber Supplies Department and within six months sold to a yard keeper at £75 per standard.

There is, however, evidence that in some towns and districts agreements, subject to periodical revision, are in existence regulating the retail prices of the yard keepers. No such agreement appears to exist between the yard keepers in the metropolis. Yard keepers' overhead charges have increased materially, and an increase in prices has been added to meet them. Owing to stocks being irregular, required sizes often have to be converted from larger goods, making in some instances prices erratic.

(b) Freight.—There are abnormal increases in the cost of freight of timber, amounting to 775 per cent. increase over the 1914 rate of freight, due partly to increase in price of coal, the difficulty in obtaining bunker coal, and also to the fact that, owing to dock congestion in England, owners of vessels endeavour to protect themselves by increasing the freight.

(c) Congestion.—The congestion at docks and railways, shorter hours worked, the increased remuneration and decreased efficiency of the labour employed in discharging cargoes, piling away and rendering of accounts, with the consequent delays, causing demurrage and charges for capital locked up, etc., are responsible for considerable additions to the c.i.f. price, which is passed on to the consumer. Wagon shortage generally has added to the congestion at various docks. Wages in Sweden are approximately three times the pre-war rate; beyond that there is, however, no evidence that standing timber is more expensive to the firm who fell and convert it. In the absence of any statement as to labour costs per standard pre-war and present time, it is impossible to be definite, but there is reason to believe that the shippers in Sweden are making far larger profits than in pre-war years. (e) Russia is now a negligible quantity as a factor of supply. (f) The object of timber control was a praiseworthy one, i.e., to reduce consumption and conserve timber for national purposes during the war, but we are of the opinion that the action of the Timber Supplies Departme reversing their considered policy to cost at the end of control by dispos a quantity of surplus timber at the l price obtainable acted as an incen the shippers and merchants to ir their charges. Timber selling at t hanced prices in this country ha siderable effect upon Swedish sh causing them to increase their f.o.b and made comparatively easy the tion of a combination for the maint of high prices. We are of opinion the sale of timber by the Departn these high prices, the enhanced p timber at the present time can larg attributed.

(g) Further summarised, in addi the foregoing paragraph (f), the c high prices at the present time r attributed to: (1) Combination of navian shippers; absence of Russi plies. (2) Increased freight charg Increased labour charges with hours. (4) Congestion at docks a ways, shortage of trucks, and in handling. (5) Heavy demand housing and arrears of repairs d during the war, (b) requirements in and colonies generally, (c) shipb activity, (d) packing cases ow increase in exports, (e) wood bloc standard size, 3 in. by 9 in., for pa local authorities.

With regard to the last-mentio are of the opinion that recomme should be forwarded by the prope rities urging the necessity of local rities accepting alternate sizes o substitutes while the shortage of exists.

The report has been adopted proved at a joint meeting of the S Committees subject to the followin vation: "The Standing Committe unable to associate themselves with (f) of the Report of the Sectiona mittee on Timber. In the first pla consider adequate justification is g the Controller of the Timber Supp partment of his action in charg market price for the sale of Gov stocks of timber after control ha nated. In the second place, the point out that it appears difficult t cile the statement in the same find the present high price of timber is due to this action of the Timber Department—with the rest of the and, in particular, with the sum statement in finding (g) of the rea of the general high cost of timber

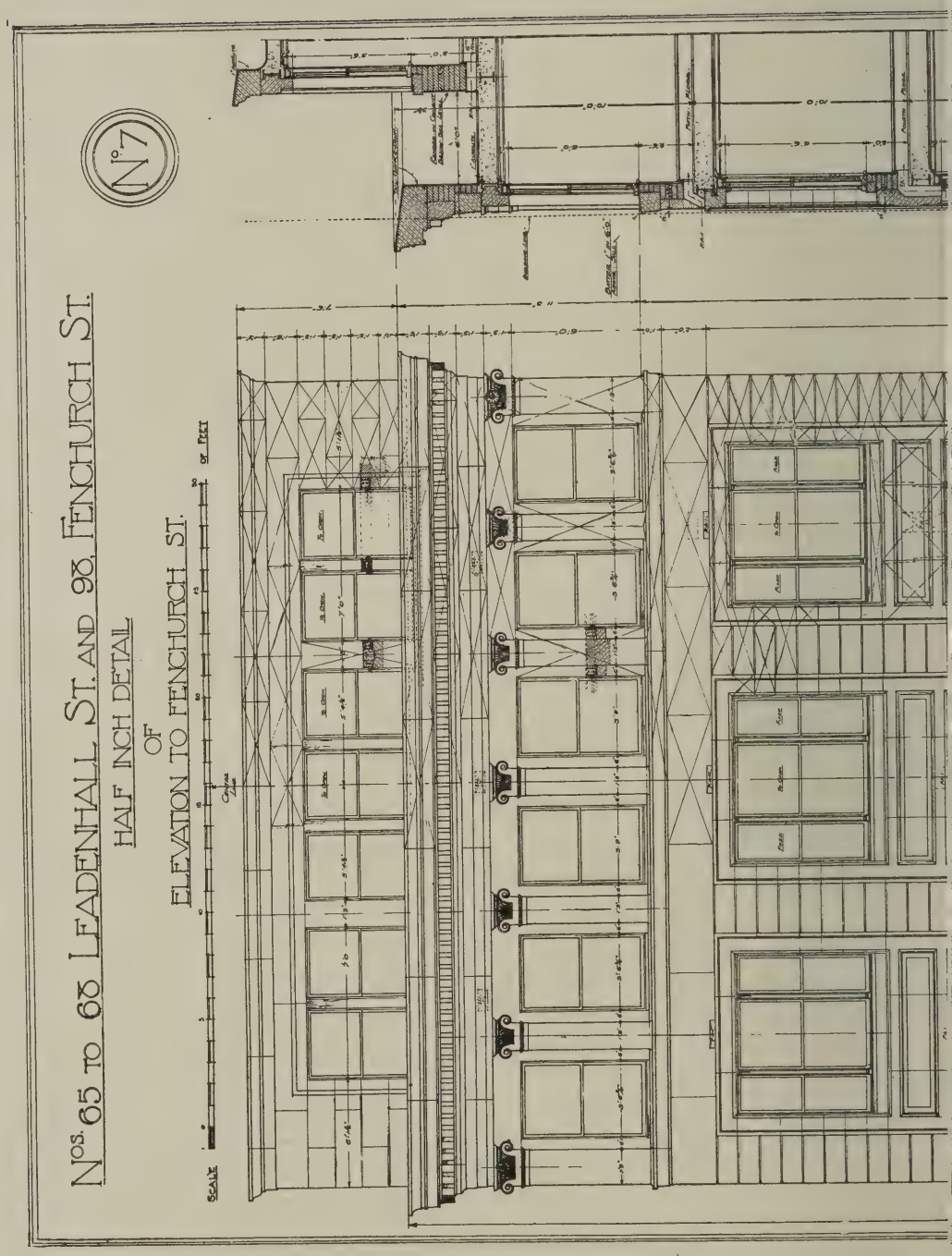
Moving a Burnsi Building

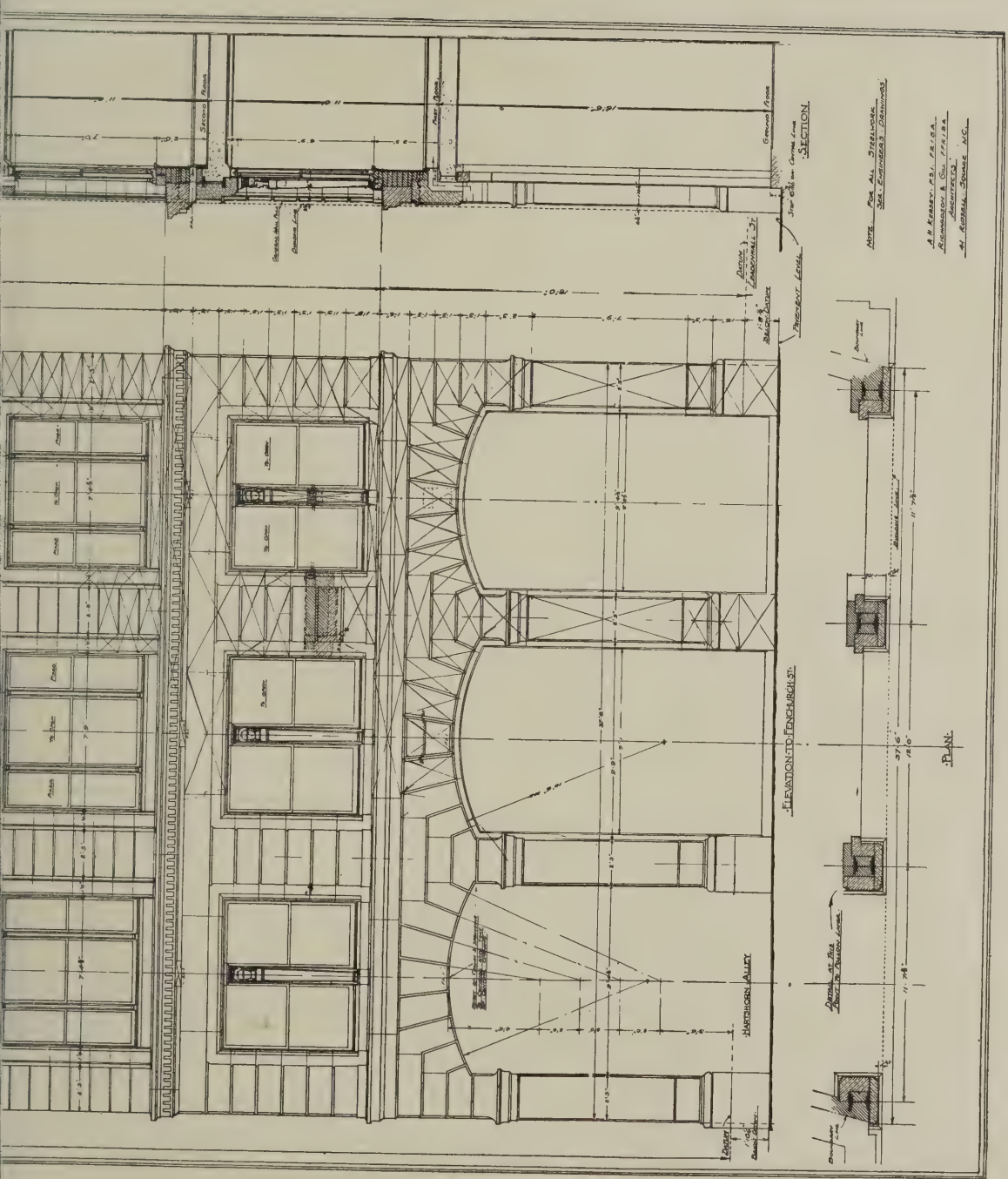
A building 60 ft. long, 60 ft. w two storeys in height, situated a side, near Glasgow, has been mov 80 ft. from its original site withou ternal disturbance. The build timber and ferro-concrete, wei tons. In erecting a number of houses in the neighbourhood, it w that the building was in the w instead of demolishing it and re it elsewhere, it was decided to sl it stood. For this purpose a large platform was introduced under t ing. This platform rested rollers, and when all the weigh building had been transferred winches and wire ropes were u draw the block the necessary

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

Architects' Working Drawings. 19.—New Office Building in Leadenhall Street and Fenchurch Street, London

A. H. Kersey, F.S.I., F.R.I.B.A., and Richardson and Gill, FF.R.I.B.A., Architects





The new building shown by the above elevational drawing is now in course of erection. The architectural treatment is adapted to the narrowness of the site, diversity of design at different levels preventing monotony in the vertical dimension.

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

Enquiries Answered

Preparation of Lay-out Plans.

E. P. writes: "Can you tell me what ee an architect is entitled to for the pre- aration of lay-out plans for a State-aided ousing scheme?"

—According to the revised scale of fees ssued by the Ministry of Health, with the pproval of the R.I.B.A. and the Society f Architects, the professional work re- uired, and the fees payable to the archi- ect are as follows: For the preparation f a plan or scheme from existing maps howing roads, builders' plot, and build- gs in block, including (1) Conferences ith local authorities and their officials;) surveying, levelling, and preparation contour plan; (3) lay-out plan (where ecessary) to 1/2,500 scale; (4) detailed y-out plan or plans to 1/500 scale; but clusive of the preparation of detailed ans of buildings: For twenty-five houses, per house, for a further seventy-five uses, 10s. per house; for the remainder 6d. per house. In cases where the number of houses has not been determined the fees shall be based on an average of ten houses per acre. Where a fully-contoured plan of the site is provided by the local authority, a deduction shall be made in respect thereof from the fees above stated of £1 per acre. Full particulars of the fees payable to architects and surveyors for professional work in connection with State-aided housing schemes were published in our issue of July 21 last.

Fire Insurance of State-Aided Houses.

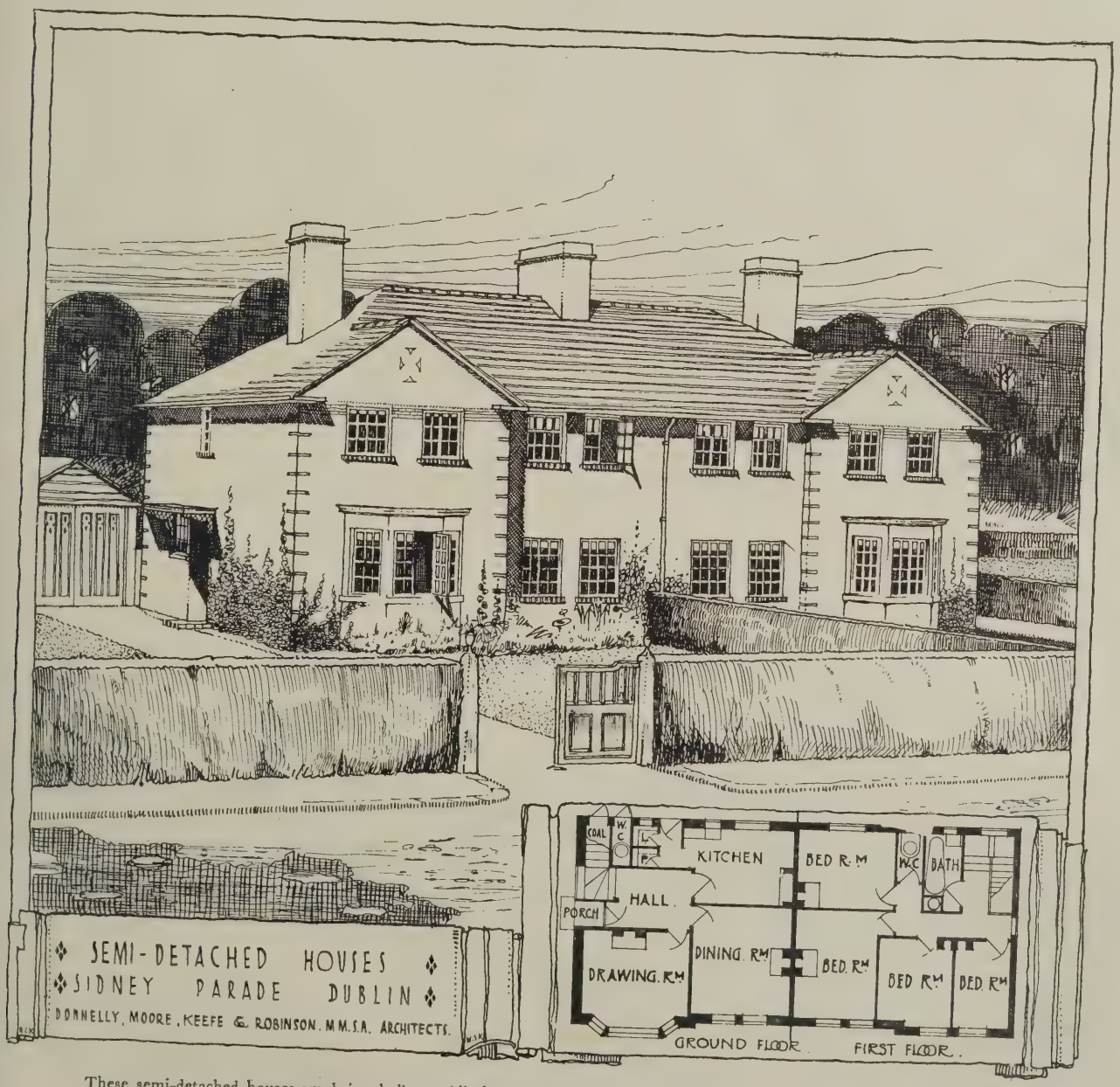
MUNICIPAL ARCHITECT writes: "Please say upon whom the responsibility lies for the insurance of State-aided houses against loss by fire?"

—Where the houses form part of a scheme as defined in the Local Authorities (Assisted Housing Schemes) Regulations, 1919, the loss falls upon the Exchequer, except where the houses do not exceed the produce of a penny rate, when they should be insured by the local authority.

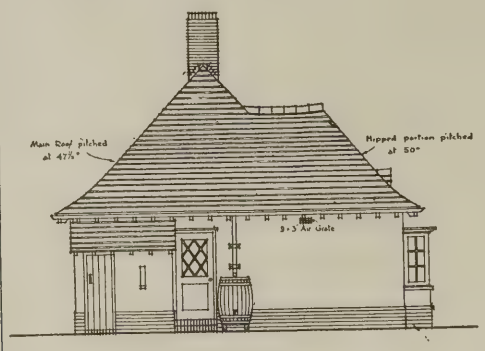
The Housing Subsidy.

A. B. writes: "I should be glad to know whether the time has been extended in which private builders may obtain the Government grant for the completion of houses. It was originally intended to pay the subsidy for houses completed before December, 1920, but was later proposed to extend the date of completion to December, 1921."

—All houses completed before December 31, 1921, by private builders will be eligible for the Government subsidy. The full conditions prescribed by the Ministry of Health as to the planning and construction of houses in respect of which the grant may be claimed are contained in the Memorandum "Grants to Private Persons or Bodies of Persons constructing Houses under the Housing (Additional Powers) Act, 1919.—Revised September, 1920," which may be obtained, price 2d., through any bookseller, or direct from H.M. Stationery Office.

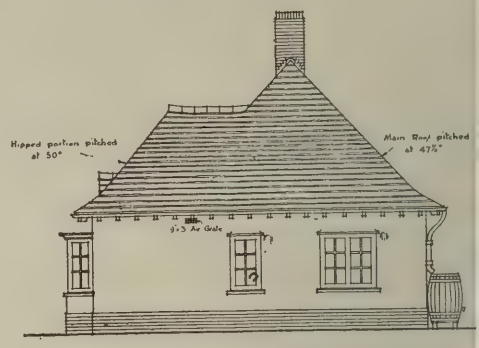


These semi-detached houses are being built at Ailesbury Gardens, Sidney Parade, Dublin. There are six pairs in all. The external walls are of stock brick, and will be finished in cream-coloured rough cast with white gables. Standard steel casements will be used in the windows. The contractors are Messrs. G. and T. Crampton of Ballsbridge, Dublin.



· WEST ELEVATION ·

· PROPOSED BUNGALOW ·
· AT · YARDLEY · BIRMINGHAM ·



· EAST ELEVATION ·

"How to Get a House of Your Own"

Under the above attractive title, the Ministry of Health have published a booklet which sets forth very clearly exactly what the "small man" has to do to get his own house, and what sort of a house he may expect for his money. It tells him how his house may be planned and built—explains the varieties of elevations at his disposal, the methods of construction that he may employ—pisé, brick, concrete, concrete blocks, steel framing, timber framing, and so forth—and last, but certainly not least, tells him the amount of the monetary grant that he may expect from the Government. All this is information which, though doubtless perfectly familiar to architects and builders, is unknown to the average citizen, for whose guidance, of course, the booklet is primarily intended.

The sample elevations given are not very attractive architecturally, but it is explained that a wide range of choice is afforded by the Ministry's collection of "type designs." We are glad to note, however, that these are not recommended for use in a stereotyped form, and that "modifications will generally be required . . . . and for these it is essential to employ a reliable architect."

The attractive and conveniently-planned bungalow illustrated in this issue is represented in the booklet, and is reproduced by kind permission of the Ministry.

It is useful to recall that the houses eligible for the Government grant are divided into three classes, the grant varying accordingly:

(1) Accommodation.—Two living rooms and three or four bedrooms.

Size.—Not less than 920 ft. super of floor space.

Grant.—£260 a house.

(2) Accommodation.—One living-r and three bedrooms.

Size.—Not less than 780 ft. super of f space.

Grant.—£240 a house.

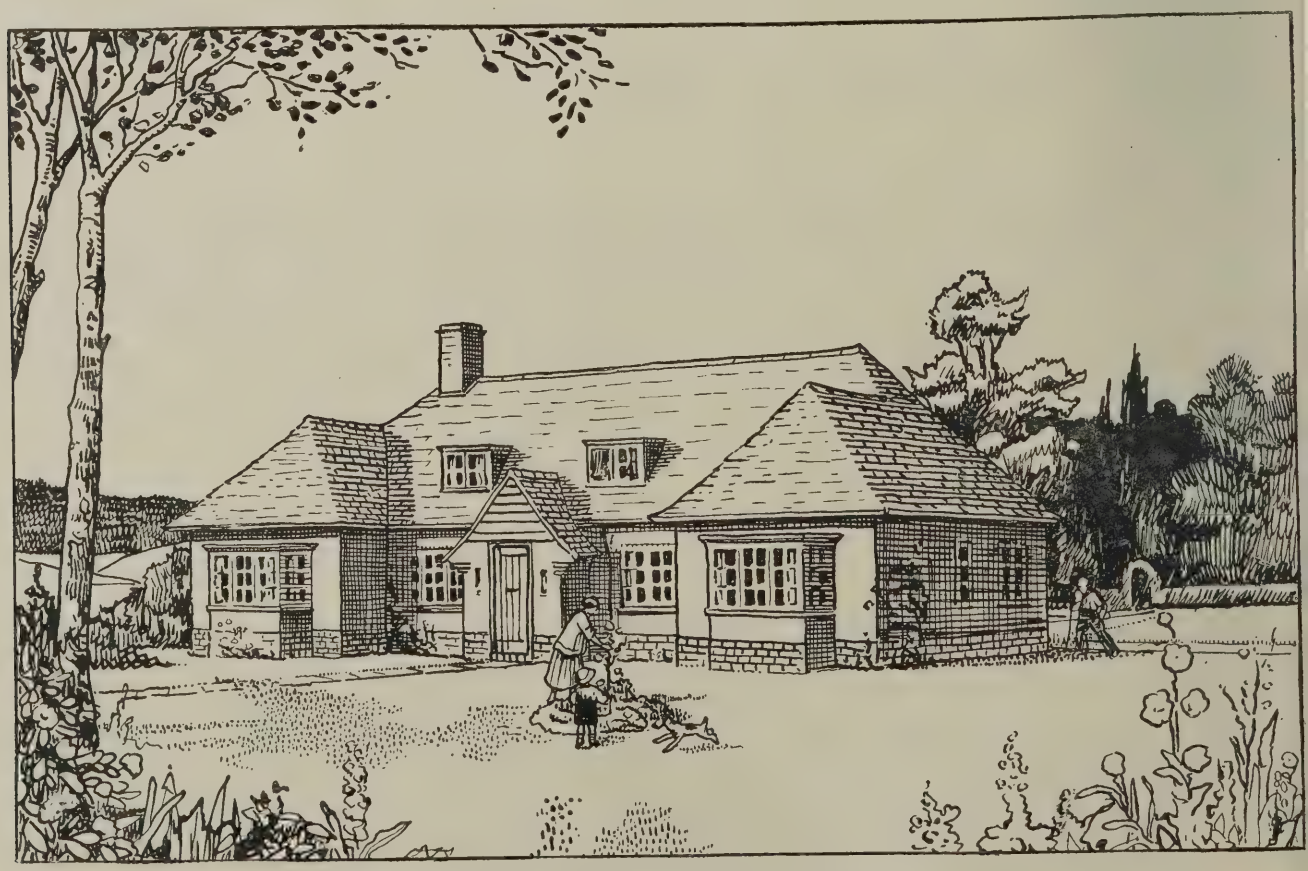
(3) Accommodation.—One living-r and two bedrooms.

Size.—Not less than 700 ft. super of f space.

Grant.—£230 a house.

More rooms may be added to suit the spective owner provided that the maxim floor space given is not exceeded, and the sizes of individual rooms are appr by the local authority as sufficient.

The full grant is payable only in res of houses commenced on or after Apr 1920, and completed before December 1921. In the case of houses which commenced between December 23, 1 and April 1, 1920, the amount of the g is decreased by £50.

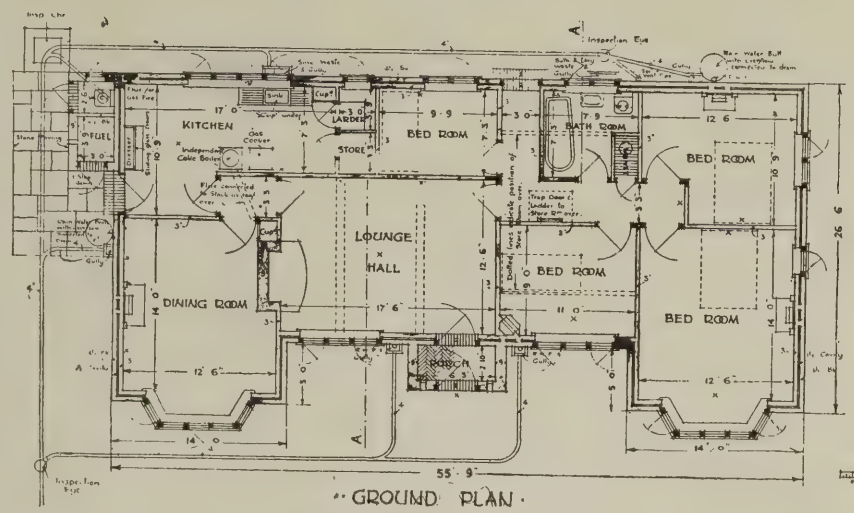


PROPOSED BUNGALOW AT YARDLEY, BIRMINGHAM

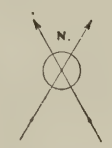
Modern Domestic Architecture. 20.—Proposed Bungalow at Yardley, Birmingham

· SOUTH ELEVATION ·

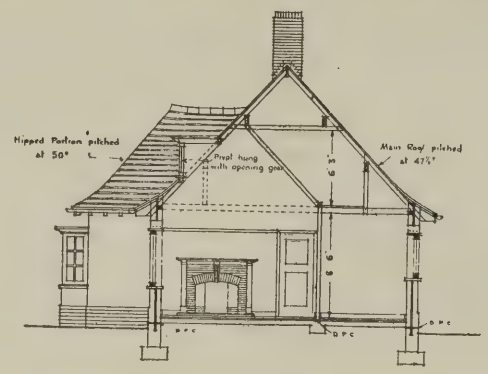
· NORTH ELEVATION ·



· GROUND PLAN ·



Note. Drainage to be varied to suit position of House on Site.



· SECTION A - A ·

Scale of Feet

This simple yet not unattractive design for a bungalow is represented in the Ministry of Health's booklet, just issued, on "How to get a House of Your Own," of which a notice appears on the opposite page. It will be observed that various labour-saving devices are introduced into the plan, which provides good accommodation without waste of space.

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

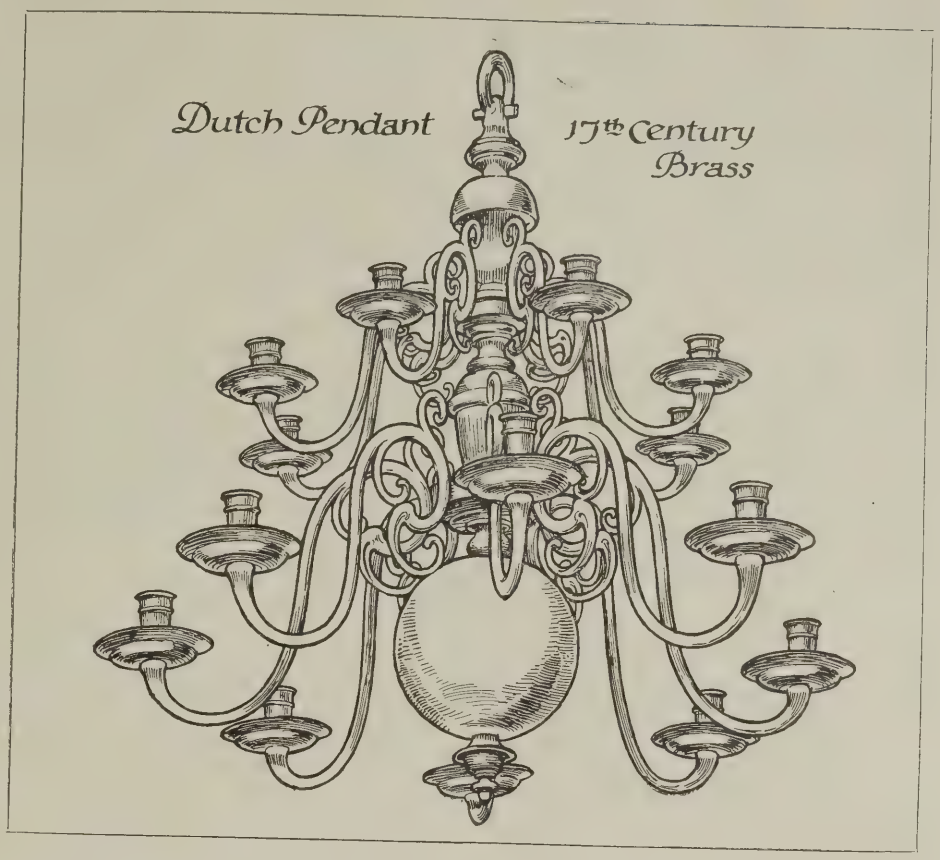
History of Artificial Lighting*

A DELIGHTFUL little book has lately been issued by Messrs. Spensers, Ltd., giving a fasci- ng account of the development of the ns . of artificial lighting from the iest times. The historical record, n which we give some characteristic tations below, is extremely well done, its value is greatly increased by some vigorous pen-and-ink drawings of ngs of various periods, some typical nples of which accompany these s.

xcept in the most primitive times the icial illumination of interiors has been important consideration, and enters ely into any decorative scheme; there- a digest of the various methods em- ed in antique and modern times may cceptable to our readers.

hen and where artificial lighting had rigin is difficult to determine, but to e extent it was probably coeval with discovery of fire.

ie earliest type of lamp was arranged floating wick, being little else than p that would stand, to hold oil in h a wick of some sort was partly im- ed, the upper end being kept above surface of the oil by some form of To this cup was eventually added ndle for the purpose of carrying. The ary Greek and Roman form was ed in, leaving a small orifice or pour-



ing hole for the oil, and furnished with one or more spouts for the wick. These lamps were modelled in terra-cotta and also cast in bronze; sometimes they were suspended by chains, or employed in groups supported by a column with spreading base. In some instances the lamps were supported on table-like tops of columns of tripod form, which were either short to stand on tables, or of sufficient height to stand on the floor. Throughout the Greek and Roman periods the lamps display artistic invention and exquisite modelling, and the work of the lamp maker was held in great esteem.

During the early Renaissance, pendants were arranged for candles held on individual arms springing in S-shaped curves from a central body; these were made in varying sizes, from five or six candle arms on one tier, to a greater number arranged in tiers one above the other. They were usually in brass, cast and finished by filing and turning; the bodies were formed of simple spherical shapes at intervals, joined up with profiled mouldings.

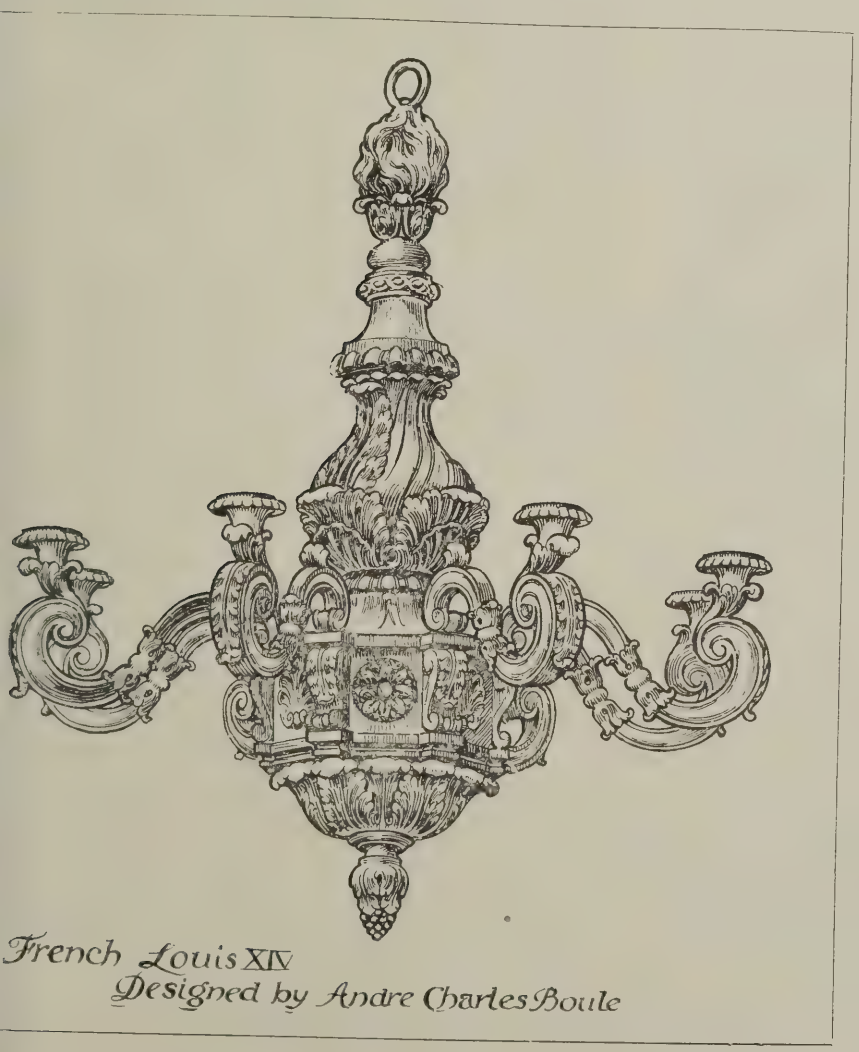
The manufacture of these was almost entirely in the hands of the Dutch, and, through the medium of the Hanseatic League, they were distributed to different parts of Europe, the character of the designs being varied to suit the local market.

Wall brackets of similar design were also employed, also portable standards for one or more candles.

Brass sconces in repoussé, also of Dutch manufacture, were also used; sometimes these were in pewter and occasionally in silver.

In France, by the time of Louis XIII., the principles of the Renaissance had been thoroughly assimilated, and a native school had arisen, of marked distinction, that from then onward took the initiative and culminated in the style of Louis XIV., when Jules Hardouin Mansart was employed between the years 1675 and 1708 A.D. in building the Palace at Versailles.

The style of Louis XIV is dignified, though occasionally somewhat massive;



*story of Artificial Lighting. Spensers, Ltd., 4th Molton Street, W.1. Price 2s. 6d. net.

architectural details constitute the chief features of the interior decorations, but the ornamental details are a great departure from those of the Italian Renaissance.

The metal work of this period, which occurs in the form of furniture mounts as well as in the wall and hanging candelabra, was exquisitely modelled and of elaborate form in keeping with other interior details, in the design and execution of which the names of Andre Charles Boule and Gouthiere are associated.

From the period of Louis XIII. the Italian taste, as a direct influence, declined, even in England, where it formed the guiding principle of Inigo Jones; and the work of his successor Sir Christopher Wren may be claimed to constitute the typical English rendering of the Renaissance.

Throughout the summary attention is mainly given to artistic development in France and England; but the rest of Europe was similarly affected more or less both in the Gothic period and in the Renaissance; in the latter style, as previously stated, this initiative was taken by France early in the seventeenth century, from which period may be dated the decline in Italian taste.

French feeling both as to form and detail is apparent in not only Dutch and Flemish work, but in that of the southern parts of Europe, particularly the Rococo phase.

Even in England, though the tradition of Inigo Jones and Wren became national in character, French feeling is evident in much of the decorative work; as in the designs of Chippendale and his contemporaries, with the exception of the brilliant period of Grinling Gibbons, whose distinctive manner and robust treatment survived and established a school of carving typically English and unique in its artistry.

Messrs. Spensers are to be congratulated upon the production of a work which, though small in compass, is as informative as it is artistic.

Payment for "Wet Time"

Negotiations have been proceeding for some months between the Government and representatives of the employers and operatives in the building trade with a view to ensuring an immediate and constant supply of skilled labour for housing schemes, and it will be remembered that a complete scheme with this object was submitted to the building trade by the Government.

The main elements of this scheme were: 1. An increase in the number of skilled men in the trade by the grading up of unskilled men, the training of ex-service men, and the resumption of apprenticeship, extended to older men. 2. A system of payment by results. 3. A guarantee against loss of wages for time lost on housing schemes through stress of weather.

For various reasons the Building Resettlement Committee of the Joint Industrial Council of the Building Trade, with whom the Government conducted negotiations, were unable to accept this scheme as it stood, but they submitted alternative proposals which they were prepared to put before the trade unions. These alternative proposals were accepted by the Government on the understanding, which was fully recognised by the Building Resettlement Committee, that if they failed to attain their object the whole question should be further considered. The proposals are to be forthwith submitted to the trade unions concerned for their consideration.

Essentially the proposals of the Building Resettlement Committee consisted of the resumption of ordinary apprenticeship in the building trade, the introduction of an adult apprenticeship system on agreed lines, proposals for action to encourage labour to concentrate on housing schemes, and the adoption of a scheme, to be arranged in detail, between emplo and operatives, for providing secu against loss of wages by stress of wea

Difficulties arose as to the basis scheme for providing security agains of wages, and the Resettlement C mittee preferred that it itself should f a scheme of payment for wet time w could be brought into operation at upon housing schemes pending the s ment of a general scheme which woul applicable to the industry as a w After much discussion, however, representatives of the employers operatives upon the Committee faile agree upon the basis of such an arra ment.

The Minister of Health decided, t fore, to call the Resettlement Comm together and endeavour to secure an a ment. A meeting with this object held under the chairmanship of Addison at the Ministry of Health Wednesday last.

The representatives of the emplo were prepared to adopt a scheme u which payment should be made at rates for 50 per cent. of all time through stress of weather; the operat on the other hand, pressed that the f of 75 per cent. should be adopted in of 50 per cent. Although in except cases loss to the operatives from weather conditions may amount to a proportion of the week's wages, the age of time lost throughout the ye comparatively small, and the diffe between the effect of the two prop cannot be regarded as very consider It was accordingly hoped that the sides would have been able to f formula which would have been ac able to both. After prolonged negoti however, the two parties again faile agree.

In view of the deadlock which had reached, Dr. Addison announced th would be prepared in the case of a the building trades which undertoo accept and work the whole of the sc originally put forward by the Re ment Committee, to bring into oper on housing schemes the following posal:

In the case of a man employed or s ing by to work on a job when called for a full week, the payment for lost shall be 50 per cent. in respect of tim through stress of weather, up to tw two hours per week. In the case of lost more than twenty-two hours hours lost over and above twent hours shall be paid for at the rate per cent. of the time rate.

The effect of this proposal will be if a man loses twenty-two hours o forty-four hour week, he will recei per cent. of a full week's wages. cases in which a man loses more tha a week will be few, but when the week is lost, the man who stands by o job will be ensured a payment of 62 cent. of his full week's wages.

The representatives of the operati the Building Resettlement Comm after prolonged discussion, agreed t cept Dr. Addison's suggestion for fa able recommendation to their mem together with the other general pro of the Resettlement Committee. representatives of the employers, holding that the suggestion went f than they could go, were understood prepared to acquiesce in its applicati housing schemes in conjunction wit other general proposals of the Re ment Committee.

HY-RIB USED AS CENTERING.

Another Notable Example

NEW "GLORY PAPER MILLS," WOOBURN GREEN.

Architect, Mr. E. C. P. Monson, F.R.I.B.A., F.S.I.

Interior of the Air Drying House. Shows the arched HY-RIB roof plastered. Very high grade paper will be dried here and the roof is designed to avoid any possibility of "dripping" on the paper. The ascending moisture condenses on the roof and runs down the sides.

Exterior view of Air Drying House under construction. Entirely in reinforced concrete on the Kahn System. Note the wide and continuous window areas.

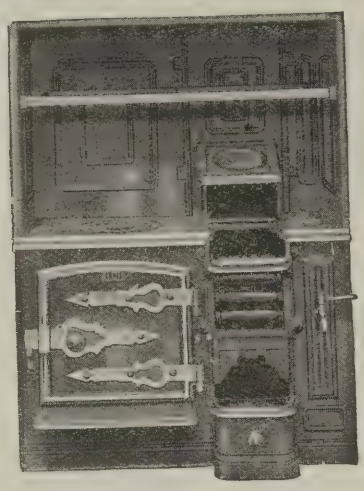
The HY-RIB in position ready for plastering with cement plaster. The secondary beams, or purlins, are reinforced concrete "Tees" precast on ground and hoisted. On and between these the curved HY-RIB is laid in two layers making a double roof with air space.

These timber arches (centering for main beams) were the only centering used for this fine example of an arched roof. Timber shuttering is entirely obviated with HY-RIB *because HY-RIB is both a centering and reinforcement.*

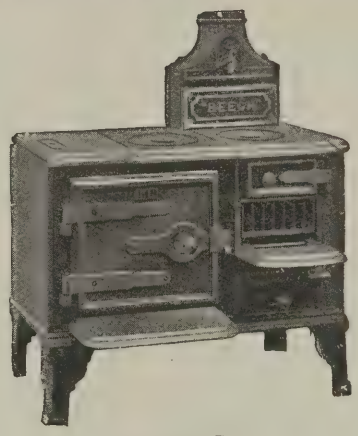
HY-RIB is a steel centering of great rigidity dispensing entirely with close-boarded timber shuttering. HY-RIB also provides reinforcement.

The new HY-RIB HANDBOOK is ready. This is a handsome booklet full of drawings, photos, and practical information. Write to-day for your copy.

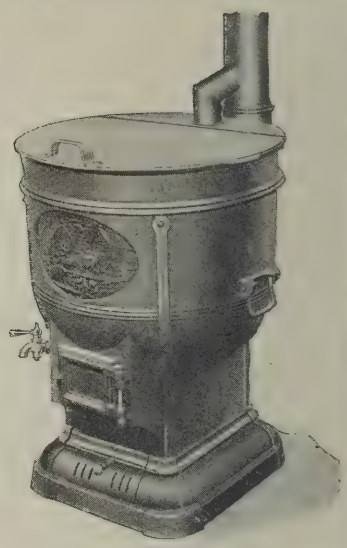
THE TRUSSED CONCRETE STEEL CO., LTD.
52, Truscon House, Cranley Gardens, South Kensington, S.W.7



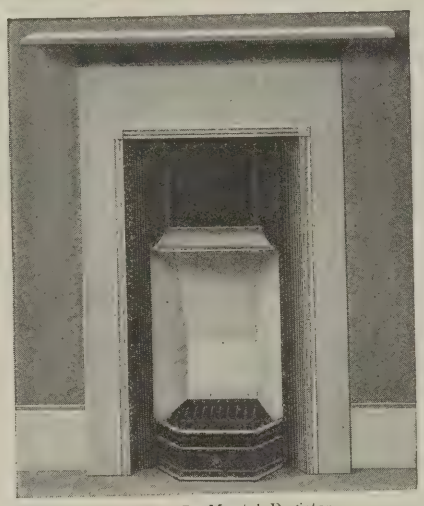
No. 411.—"Anglian" Range.



The "Beech" Range.



The "Farm" Washing Copper.



No. 1144 P.—Mantel Register.

By Appointment

Simplify your Housing Schemes

by ordering

CARRON FITTINGS

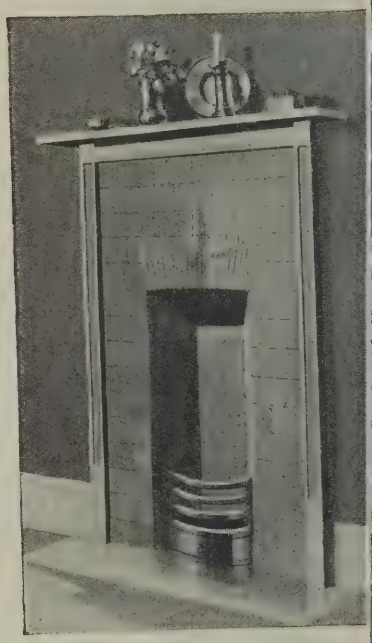
Adopted in the principal Housing Schemes throughout the Country.

Drawings and estimates submitted gratis. Write for No. 18 n free catalogues.

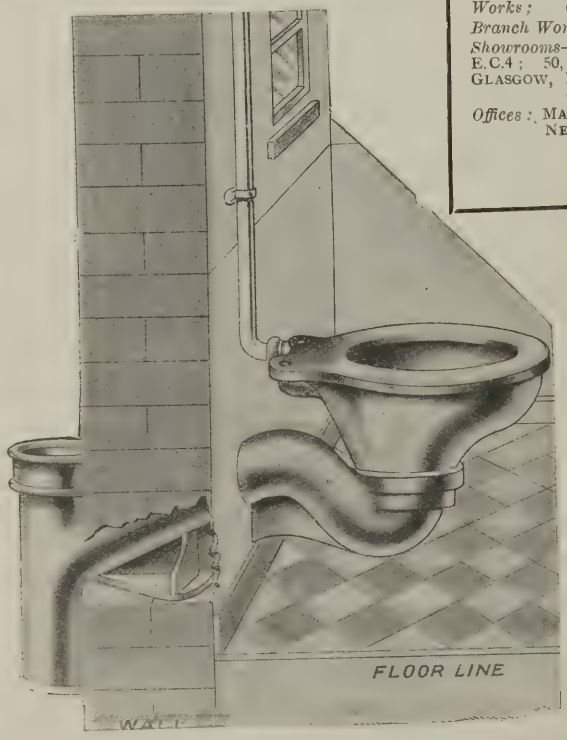
CARRON COMPANY

Works: CARRON, STIRLINGSHIRE.
Branch Works: Phoenix Foundry, SHEFFIELD.
Showrooms—LONDON 15, Upper Thames St., E.C.4; 50, Berners St., W.1. LIVERPOOL, GLASGOW, EDINBURGH, BRISTOL, NEWCASTLE-ON-TYNE, BIRMINGHAM.
Offices: MANCHESTER: 14, Ridgefield. NEWCASTLE-ON-TYNE: 15, Prudhoe St.

Established in the Reign of George II.

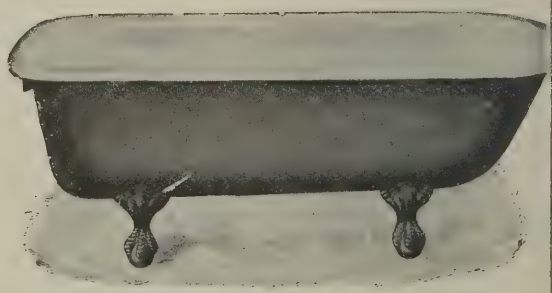


No. 1167—"Leamington" Grate.



PENDLE'S PATENT ADJUSTABLE CANTILEVER W.C.

THOROUGHLY HYGIENIC, PERFECT FLUSHING, ONLY ONE JOINT, STANDS CLEAR OF THE FLOOR. CAN BE SET AT ANY ANGLE. SAVES PLUMBER WORK.



No. 35.—Porcelain Enamel Bath.

A POPULAR HOUSING MODEL.

The Week's News

(Concluded from page 424)

Concrete Houses for Blackburn.
ackburn T.C. have decided to erect ty concrete houses at Green Lane, ry Tree.

Housing in New York.
w York, with a population of over ,000, is estimated to lack quarters for thing like 500,000.

Derbyshire Asylum Scheme.
is proposed to spend from £60,000 to 00 on structural alterations and ions to Mickleover Asylum.

Sefton Rural Housing.
ton R.D.C. have resolved to apply loan of £40,000 for housing. The sod in connection with their scheme een cut at Gorsey Lane, Ford.

Building Substitutes in France.
w building blocks made of sand, cement, and charcoal dust, are used bstitutes for bricks in the Brest dis- of France.

Housing at Harworth.
e Blyth and Cuckney Council have d plans for the erection of seventy- uses at Harworth. The scheme will ually provide for the building of houses.

North Devon Housing.
nstaple R.D.C. have decided to to the Ministry of Health for sanc- o the following loans for housing: oe, £3,600; Bratton Fleming, ; and Tawstock, £2,000.

Birstall Housing.
lding operations have been com- d in connection with the Birstall ct Council's housing scheme. Of the ouses to be erected on the Nova , only seventy houses are to be built sent.

Housing Progress at Colwyn Bay.
e January last plans for eighty-six houses have been passed by the ., and of these seventy-one are in of erection or are completed. The nment subsidy has been applied for pect of fifty-five of these houses, the um certified for being £13,760. The il have now accepted a tender for st instalment of their own housing e.

Leeds Housing Schemes.
ders have been accepted by the Leeds vements Committee for 274 houses. is still a shortage of material and for the Leeds schemes, and the Im- nents Committee are in frequent with the Director of Building Mate- s to supplies. Roofing slates, tiles cement are particularly scarce. houses number 338, of which 138 an insanitary condition.

Workhouse for Housing.
Guardians of the Wycombe Union, kinghamshire, having failed to find haser for the workhouse at Saunder- ituated some five miles from the have resolved to enter into negotia- vith the Housing Committee of the ube Town Council with a view to ildings being converted into flats. orkhouse, a substantial structure of nd brick, provided accommodation ut 400 inmates for many years until r period, when it was handed over War Office for military purposes. The Ministry of Health has authorised its sale. About forty families could be comfortably accommodated in the building.

Chester Corporation Purchase.
The Chester T.C. have decided to purchase for £14,750 a site in the Curzon Park district, and to use a portion of it for houses and the remainder for playing fields. This is a sequel to a controversy a year ago, when the Council, under the Town Planning Act, refused to sanction the erection of steelworks on the site, on the ground that it would damage the amenities of a beautiful residential district overlooking the River Dee.

Architectural Partnership.
The firm of Thompson, Hennell and James ceased to exist on September 30, and Mr. Thompson proposes shortly to proceed to South Africa to take charge of the development of the Cape Town Garden Suburb, for which the firm prepared the lay-out plan. Mr. C. Murray Hennell, F.S.I., and Mr. C. H. James, A.R.I.B.A., have now entered into partnership, and are practising as architects and surveyors at 19, Russell Square, Bloomsbury, W.C.1.

Manchester and the Free Trade Hall.
The application of the Manchester Corporation to borrow £91,000 for the purchase of the Free Trade Hall, Manchester, has been the subject of a Local Government Board enquiry. Recently the City Council decided to purchase the building, and the agreement awaits the ratification of the Free Trade Hall shareholders. The premises were erected in 1856. The large hall provided comfortable seating accommodation for 3,000 people.

The Manor House Site, Rochdale.
At a meeting of the Rochdale T.C. the Mayor announced that a prominent local business man had presented the town with the Manor House site. The site is in the centre of the town, and contains eight thousand square yards and has cost the donor £11,500. The River Roach runs through the site, and it is the intention of the Council to cover the river over and lay out part of the estate in gardens. The Government, it is stated, will erect a new post-office on the site, near to which will be the town's war memorial.

Common Rights or Houses?
A dispute has arisen between the Chertsey R.D.C. and the Ministry of Agriculture as to the right of the Council to use a part of Chobham Common for a housing scheme. The Council approached the Ministry for permission to use two acres of the common for building, but received a reply that this could not be given unless the Council found an equivalent of land for that which would be taken from the common. The Council have decided to press for an enquiry by the Ministry of Agriculture.

Housing at Portmadoc.
Mr. J. Haydn Jones, the Assistant Commissioner, has advised the U.D.C. to concentrate their scheme on building thirty houses at Borthygest, and that the approved site should be so enlarged as to make provision for that number, and that in the meantime the Council could consider any further needs near the centre of the town. The architect has submitted lay-out plans of the houses in question, and of six near the English Chapel. The Valuer has been instructed to negotiate with the Tremadoc Estate for the purchase of the sites.

The Gas Regulation Act, 1920.
Rules have now been made by the Board of Trade with respect to applications for Orders under Section I. of the Gas Regulation Act, 1920. The Board have prepared model forms of application and notice, and a prescribed form of schedule, so that gas undertakers when making their applications may know exactly what particulars are required. These forms and schedule may be obtained from the Assistant Secretary, Power Transport and Economic Department, Board of Trade, Great George Street, London, S.W.1. The text of the Act has been published by H.M. Stationery Office, price 3d. net.

Cartagena Protection Scheme.
The project for the protection of Cartagena against inundation comprises the construction of various canals, bridges, and sanitary works. The work includes restoration of the canals Algameca and Norte, new metal bridge at Benipila of 40 metres span, canal and roadbed, canal del Oeste and branch to the Mediterranean, protection of the Arsenal, and protection of the St. Lucia district. It remains for the Spanish Government to decide whether the works will be carried out by the administration or by national or international tender, but since after an invitation for tenders has been issued there is often barely time for British houses to compete, the Commercial Secretary to His Majesty's Embassy at Madrid is of the opinion that the attention of contractors should be drawn to this possible opening in order that they may make their own enquiries. In this connection it is essential that firms should have an agent in Madrid, as the tenders for Government contracts have to be submitted on special forms supplied by the department concerned.

"Luxury Building."
The Blackburn Trades Council has decided to use its power in the immediate future "to prevent plans being passed for all luxury building and extension of premises, the needs of the many working-class families for decent housing accommodation being more urgent and important than many of the buildings in course of construction at the present time." Proposing the resolution, Mr. Bowman said that the buildings to which they took exception were such places as picture palaces, extensions to breweries, public houses, factories, or additions to gentlemen's houses. Their view was that plans of that kind ought to be deferred in order that there might be a chance of securing an adequate supply of labour for housing schemes. At the present time there were something like 57,000 bricklayers in the country, and of that number only about 12½ per cent. were engaged on housing. That was a very small percentage and the same thing applied so far as carpenters and joiners were concerned. There was also a scarcity of timber, due, in his opinion, to the refusal of the Government to trade with Russia, and some of the old timber taken out of buildings was better than the new.

Trade and Craft

Change of Address.

The head offices of Siemens Brothers and Co., Ltd., and of Siemens Brothers Dynamo Works, Ltd., will be shortly removed from Palace Place Mansions, Kensington, London, W.8, to Caxton House, Westminster, London, S.W.1.

Electric Heating.

The General Electric Co., Ltd., of 67, Queen Victoria Street, London, E.C., have sent us a copy of their new leaflet on Model "A" electric fires. These tastefully-designed fires, which are 22 in. high, 14 in. wide, and 9 in. deep, weigh 17 lb., and have a consumption of 2,000 or 3,000 watts. In operation one-half of the heat is controlled from the service terminals and the other half from a single switch mounted on the radiator housing. The fires, which may be finished in a variety of ways, have special removable heating elements.

Fire Bricks and Fire Clays.

A new and profusely illustrated catalogue has just been issued by Messrs. J. H. Sankey and Son., Ltd., dealing with their various well-known brands of fire bricks and fire clays. Messrs. Sankey have had over sixty years' experience in the manufacture and sale of fire goods, and their London stock consists of over 2,000 tons. All the shapes shown in the catalogue are in stock, and if necessary special shapes may be made to customer's own designs. The company also hold large quantities of fire bricks at different works in the United Kingdom. Messrs. Sankey also issue fully illustrated catalogues of building materials, fire backs and cheeks, sanitary ware, and porous terra-cotta partition blocks, etc., copies of which may be obtained on application to their head office, Essex Wharf, Canning Town, London, E.16.

Coming Events

OCTOBER 20 to OCTOBER 23.

"Daily Mail" Exhibition of Village Signs. Australia House, Strand, W.C.

TUESDAY, OCTOBER 26.

Royal Society of Arts, John Street, Adelphi, W.C.2. Three days' labour co-partnership congress.

South Wales Institute of Architects: Western Branch.—"Domestic Architecture of the Eighteenth Century," by Mr. J. Alfred Gotch, F.R.I.B.A., F.S.A. 7.30 p.m.

WEDNESDAY, NOVEMBER 3.

Glasgow Institute of Architects, 39, Elmbank Crescent, Glasgow. "The Preservation of Ancient Monuments." By Mr. J. Wilson Paterson, M.B.E., A.R.I.B.A., F.S.A. (Scot.). 8 p.m.

Design for Mosaic Work

The design shown in the adjacent column, by Mr. C. W. Kelsey, was exhibited at this year's Royal Academy. The original is very beautifully drawn in colour, and the reproduction naturally loses some of the character of the design by being in monochrome. It is possible, however, to judge of the general artistic quality of the work, which is wholly admirable. Specimens of Mr. Kelsey's work are to be found in many churches and cathedrals in England and the United States.

DESIGN FOR A STAINED-GLASS WINDOW. BY C. W. KELSEY.

Competitions Oper

Brechin.

War memorial; cost, £1,500. Appl T. M. Guthrie, Royal Bank of Sco Brechin. Closing date November

Lockerbie.

War memorial; cost, £2,000. Secretary, R.I.B.A. Closing January 31.

Gateshead.

Cenotaph, in grey granite, to cost £4,500. Apply Mr. George Gill, Street, Gateshead. Closing December 1.

Hillhead (New) High School, Gla

New high school for Glasgow E tion Authority. Assessor, Sir Jol Burnet, R.S.A., LL.D. Full parti of this competition were published i issue of October 6. Closing date, N ber 15.

Liége.

Monument to commemorate the d of Belgium against the German in One million francs has been subs for the project. Apply M. Léon Mar Bureau des Beaux Arts, Hotel de Liége, Belgium.

Frodsham War Memorial.

The Frodsham War Memorial mittee invite designs for the erectio monument to cost about £800. A mium of twenty guineas will be pa the selected design, such sum merged in the commission in the ev the author being engaged to carry o design. Plan of site and further p lars may be obtained on applicati Mr. J. Geo. Aston, hon. sec. Me Committee. Main Street, Frod Closing date, October 30.

Licensed House in a Large To

With a view to obtaining suggestic improving the existing type of p house, the Court of the Worshipful pany of Brewers offers premiums of £150, and £50 for the best design licensed house on a given site. C titors must be Members or Lice R.I.B.A. The President has conser act as assessor. Apply Secretary, R. Deposit, two guineas, which will turned to all competitors submitting fide designs. Closing date, January

Competition Awar

Ballymena New Town Hall.

The assessors (Messrs. Kaye, Parr Ross, Kildare Street, Dublin) have their award on nine sets of designs new town-hall. They award the firs of £100 to Messrs. Jones and Kel South Frederick Street, Dublin second prize to Messrs. Jackson G. and R. H. Gibson, Scottish Building fast; and the third prize to M Donnelly, Moore, Keith, and Rob Lower O'Connell Street, Dublin.

Earby War Memorial.

The design of Mr. William A. Qu in this competition has been place by the assessor.

New Elementary School, Bu

The assessor, Mr. P. S. Worthi M.A., F.R.I.B.A., has made the fol awards in connection with the comp for a new elementary school at First, Messrs. Biram and Fletch Helens; second, Messrs. Cruikshar Seward, Manchester; third, Mr. Lord, Manchester.

RUBEROID

Roofing

RUBEROID combines all the essential requirements of a flat roofing. Low in prime cost, it is durable, unaffected by heat or cold, yet flexible, and will not crack or run. Is proof against vibration, and withstands foot traffic. Light in weight yet substantial. Needs no metal connections, and is equally efficient whether laid on boards or concrete, on flat, sloped or curved roofs. Although the least expensive it has proved during the past 29 years to be the most reliable form of flat roofing.

Our most convincing testimony is the buildings we have roofed. The premises for Messrs. Sutton & Co., Cork, illustrated hereunder is but one of the thousands of buildings covered with Ruberoid. Our Catalogue, illustrated with other examples of our work and containing full information, will be sent on request.

The Ruberoid Co., Ltd., 1, Waterloo House, 81-83, Knightrider St., E.C.4

Branches :— Newcastle. Birmingham.

Branches :— Leith. Dublin.

Venesta Plywood

The best material for the best work

For Panelling and Partition work of every description there is nothing to equal Venesta Plywood Panels. They are unshrinkable, unsplinterable, hygienic, and non-absorbent, and their delightful surface is admirable for taking paint, enamel or polish, without preliminary preparation.

For quick, dry, and reliable construction, there is nothing better, and the result upon completion is far superior to anything possible with lath and plaster.

We also design, supply, and fix Tudor and Jacobean Period Panelling in oak, walnut, mahogany, etc., and shall be pleased to submit designs and estimates.

Write for Illustrated Booklet.

Venesta Ltd
Plywood Manufacturers
1. Great Tower Street, London, E.C.3

Telephone : London Wall 4760 (5 lines).

CONTENTS.

Edited by PROFESSOR A. E. RICHARDSON, F.R.I.B.A.

Notes and Comments: Bureaucracy and the Builder; The Duchy Estate at Kennington; Bank of England War Memorial; Women House Builders; London University and Bloomsbury; The Art of E. A. Rickards 449, 450

The Week's News 451, 473

A Great American Courthouse ... 452

Compulsory Dilution and the Operatives 453

Architectural Causerie: Buontalenti's Villas. By Aero 454

First Principles in Building Construction. By Robert F. Sherar, Architect 458

Enquiries Answered 461

The Progress of Architectural Education. By A. W. Hennings, F.R.I.B.A. 462

Central Heating for Small Houses... 462

Correspondence 467

Plans for Sanatoria 468

"All Gas" Houses at Luton ... 471

Societies and Institutions 471

Weekly Housing Report 472

Local Bonds and the Housing Grant 472

Coming Events 473

Competitions 473

Trade and Craft 474

Current Prices of Materials xix

Complete List of Contracts Open xx, xxiv

ILLUSTRATIONS:

G. F. Bodley, R.A. 447

Modern American Architecture. 9.—Hamilton County Courthouse, Cincinnati, Ohio: Principal Façade. Rankin, Kellogg, and Crane, Architects ... 448

Hamilton County Courthouse, Cincinnati, Ohio. Plans, 452; The Law Library 453

Royal Villa of Poggio a Cajano, near Florence 454

Details of Craftsmanship. 5.—A Wall Cupboard of Carved Mahogany (circa. 1725-30) ... 455

The Villa of Artimino. Bernardo Buontalenti, Architect... ... 457

First Principles in Building Construction (Diagrams) ... 458, 461

Monuments. 3. — Dumbarto War Memorial Competition Accepted Design. Sir Joh Burnet, Son, and Dick, Archi tects ... ...

Architects' Working Drawings 20.—St. Anselm's Church Kennington, London. Deta of Entrance Front, Adshea and Ramsey, F. an A.R.I.B.A., Architects ... 4

Sanatoria Lay-outs suggested b the Ministry of Health. Type A and B ... ...

Sanatoria Pavilions suggested b the Ministry of Health. Typ C and D ... ...

Air Views of Buildings. 8.- Cathays Park, Cardiff ...

"All Gas" Houses at Luto Method of Building "Nautilus" Gas Flues; G Fire, with Simple Mantel a Tile Surround; Gas Flue Te minals and Chimney Stacks

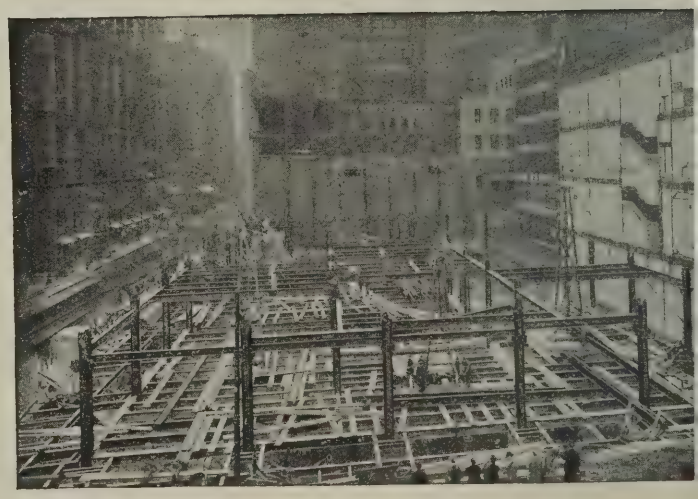
"Daily Mail" Village Sig Competition. Third a Fourth Premiated Designs

Sprake's Kitchen and Sculle Cabinet ... ...

DAWNAY DEFINITIONS.—1.

RECONSTRUCTION.

RECONSTRUCTION is simply the building-up again of trade, bearing in mind the lessons of the last four years. Energy and a firm purpose are the essentials. These principles have been applied to our business—hence this announcement asking for your enquiries.



ARCHIBALD D. DAWNAY & SONS, Ltd.

Telephones: Battersea 1094 (3 lines). **Steelworks Road, Battersea, S.W.11.** Telegrams: "Dawnay, Battsquare, Londo

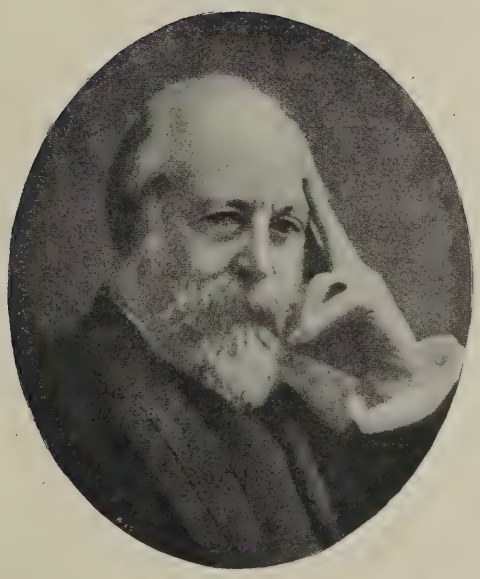
Telephone: Cardiff 2557. **And at East Moors, Cardiff.** Telegrams: "Dawnay, Cardif

Wednesday, October 27, 1920

Volume LII. No. 1347

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



G. F. BODLEY, R.A.

The most brilliant protagonist of the Gothic Revival during its later phases. Typical examples of his work are: St. Mary's Church, Eccleston, the Church of Holy Angels, Hoar Cross, and Cowley Church, Oxford. He acted as one of the assessors in the competition for Liverpool Cathedral, and was ultimately appointed joint architect with Mr. G. Gilbert Scott. He died in 1907.

27-29 Tothill Street, Westminster, S.W.1.

Modern American Architecture. 9.—Hamilton County Courthouse, Cincinnati, Ohio: Principal Façade

Rankin, Kellogg, and Crane, Architects

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

ednesday, October 27, 1920

Volume LII. No. 1347

Notes and Comments

Bureaucracy and the Builder

R. ADDISON has added another indiscretion to the many with which, rightly or wrongly, he has been freely credited. He has sent a letter to "The Times." He has, he says, dom troubled the Press with replies to individual acks upon the Ministry of Health. Why should he uble to do it at all? If he allows himself to be ited in this way, he will soon have no time for doing ything else than write recriminatory letters to the pers. Mr. Morris Gibson has aroused Dr. Addison's by saying that refusal to approve certain proposals the Sutton Council in regard to raising money for using "brings upon a Government Department well-rited contempt." Dr. Addison retorts that the ton Council, of which Mr. Morris Gibson is a mem-, "have not yet laid one brick upon another, but, on other hand, appear to view with equanimity the tion of a large cinema in their district." Another that he lays to their charge is that they are only issuing a prospectus concerning the issue of hous-bonds. Dr. Addison contends that a member of a ncil with this record is hardly in "a position to ortion 'well-merited contempt' to the Ministry of lth." Dr. Addison's line of reasoning is a little icult to follow. Is it anything more than *quoque*"? A responsible Minister would be ng wisely to refrain from this sort of repartee. t, however, is a matter that is almost purely per-l. If he likes to amuse himself by bandying words unimportant writers to the newspapers, that is his r. Of much greater public importance is his ied rebuke to Sutton Council for allowing a cinema e built. Frankly, we regard this dead set at xury" building as no better than a cuckoo-cry. Of se the Labour men have taken it up. It serves their ose to use it as an item in their case against tion; and to the Ministry the complaint of "luxury ding" serves as a very handy excuse for the con-d failure to get on satisfactorily with the building houses for workers. The Prime Minister was uraged in this economic heresy by a member of unemployment deputation which he received at ning Street last week. This gentleman, the tary of the London Trades Council, asked whether s not the fact that 7,000 bricklayers are on housing at the present time, and all the rest are on luxury ling, and the Prime Minister replied, "You may it from me that we are not going to allow it." dded, "We are going to employ ex-Service men uilding, and if the building trades object to it, must take their chance." That is to say, the Prime ter persists in a policy of control, and singles out uilding industry "to take its chance" of the evil s of this interference with economic conditions, to take its chance" of the results of dumping on undred and eighty thousand ex-Service men. On ce of it, this attitude does not seem to be even ely related to wise statesmanship. Why should the building industry be exclusively honoured with these embarrassing attentions? Did it not suffer enough repression and injury during the war, when, save for Government work, it was sternly forbidden to lay one brick upon another? It bore all its misfortunes so patiently and so patriotically that it is now expected to submit tamely to any form of oppression that the Government sees fit to inflict upon it. The docile ass is to be kept bitted and bridled, ready to bear meekly any burden for which the Government would like to shift the responsibility. Once again it is necessary to assure the Government that it has itself created all its difficulties with respect to the building industry, and that to get rid of them it is only necessary to release the industry from every form of control. That the Government should stand in need of repeated reminders of this elementary and fundamental fact is no less astonishing than the failure of a doctor of medicine to realise that in strangulating one of the main arteries of industry he is restricting circulation through the whole body, and there can be no health in it. By maintaining their strangle-hold on building they are adopting a deadly certain means of defeating what they profess to be their great aim of providing working-class houses expeditiously; and by their forcing methods of dilution they are angering the operatives and embarrassing the contractors who are now threatened with the dilemma of either employing non-unionist workers or retreating before the building leagues.

The House of Commons debate on unemployment (last Thursday) turned mainly on the reluctance of the organised building workers to admit ex-Service men to their ranks, with the dual object of obtaining a more adequate supply of labour for housing and of reducing the appallingly large number of unemployed. Concisely stated, the data on which the Government are making this special appeal to the building operatives are—the nation is in immediate need of 500,000 houses. There are 65,000 fewer skilled men in the trade than there were before the war. There are 187,000 ex-Service men wanting work. According to the Government, these factors point to the inevitable conclusion that it is the plain duty of the organised building operatives to assist the Government scheme for this economical adjustment of supply and demand. But, as a representative of this Journal makes clear in his report of an interview with a high official of the federated operatives, there is determined, not to say obdurate, opposition to this course. It is hinted, moreover, not obscurely, that the Government would do well to organise its own housing operatives and leave the existing unions to their own devices. Recent utterances from the Prime Minister seem to suggest that something of this kind is in contemplation. About this, however, there are two points that are not easy to understand. The first is, the apparent utter callousness of the unionists towards unemployed ex-Service men; and the second, the equally strange apathy with which they contemplate the formation of unions that must sooner or later

come into conflict with their own. But the whole industrial position is, for the moment, fantastically irrational and inconsequent.

The Duchy Estate at Kennington

It is deplorable that the fine scheme of housing on the Duchy of Cornwall estate at Kennington has been killed by the war. Messrs. Adshead and Ramsey's designs that were fortunately executed there before the war broke out are now famous the world over as setting a new style and standard of housing, and it is a thousand pities that their good work has been frustrated. The impossibility of carrying out the original scheme is a bitter disappointment to the Prince of Wales, but abandonment of it was inevitable. As the semi-official explanation runs, "The difficulty and cost of building, and the inadequacy of the return on the enormous capital outlay involved by housing, preclude anything but the use of public funds in that direction." If the original intention had been carried out, the Prince would have gone down to posterity as the Haroun al Raschid who swept away what was ugly, and inspired, or at least encouraged, the most beautifully designed housing scheme in the kingdom. Indeed, that memorial to his generosity and good taste already exists in the portion of the estate that was built before the war broke out, but its extension now seems impossible. Commercial premises will now occupy the eight acres that are being put up for auction, and the one hope left to us is that the buildings put up will follow the fine tradition established on that portion of the estate which is so exemplary in housing.

Bank of England War Memorial

It has been stated by the Rev A. Lombardini—*nomen clarum et venerabile*—with a close relationship (perhaps avuncular) to banking and similar processes—that the Bank of England authorities are arranging for a monumental group comprising "St. Christopher carrying on his back a little child," to be placed as a war memorial inside the Bank, a part of which is on the site of the old church of St. Christopher-le-Stocks. Clearly this is a motif that should inspire the sculptor to produce an excellent work of art; but as it commemorates the Church of St. Christopher and the famous deed of its patron saint in carrying the infant Christ across the stream, it seems hardly relevant as a memorial of the great war. It is not altogether inappropriate to the bank, however, since St. Christopher was formerly "invoked to frighten away the spirits who watch over hidden treasure." Also he was invoked against pestilence. The statue should be colossal; for Christopher was a giant, glorying, before conversion, in his great strength, and, after his conversion, he undertook as a penance to carry Christian pilgrims over a bridgeless stream. "At length," say the chroniclers, "a little child requested his aid, but the burden proved more than the giant could support. The child was Christ; and thus is explained the name Christopher (Christ-bearer)."

Women House-builders

Women as critics of house-building we all know. Their talk on the matter has been more copious than convincing. By this time we must have heard everything they can possibly have to say. They are now going to show us what they can do. They are being organised for action by Mrs. Oliver Strachey, who is forming a firm called Women Builders. It appears that the notion of employing women as builders has now got beyond the experimental stage, Mrs. Strachey having built at Haslemere a pisé-de-terre house in which women did all the work except the bricklaying for the chimneys and the carpenters' work. Besides, during the war, women were employed in every branch of the industry, carpentry and bricklaying not excepted. A number of ex-land-girls and others having applied to her employment, Mrs. Strachey is extending her operatio and believes that in the spring the private company t she is forming will be in a position to undertake building of "houses large and small, cottages, garag etc., for clients, who can, if they wish, supply their o plans." The phrases we have placed within quotati marks give us pause. What is the implication in t concession of freedom to clients? Are we to und stand that, as a rule, the client is expected to put hims unreservedly in the hands of the women builders, w will make or procure the designs as well as execute the This practice would override the customary relations between architect, client, and builder, and it is only obvious that such a syncopation of the accepted meth would not be good for architecture. Builders of rep do not undertake work that properly comes within domain of the architect, and we feel sure that this plu company of women builders will not wilfully disreg the etiquette of the business. The invasion of builder's business by women will not be resented p vided the competition is wholly fair, as we are sure promoter of this company of Women Builders wishe to be. But how will the trade-unionists regard innovation? Will they resent it as a new form dilution. Or will they see in it a broad hint that halcyon days of ca' canny are no more?

London University and Bloomsbu

By twenty-six votes to nine, the Senate of the Univ sity of London have decided to accept the Bloomsb site—subject to certain formal conditions, to which Government will no doubt agree without demur. offering the gift, the Government stipulated that University should vacate not only the Imperial Instit at South Kensington, but also King's College in Strand. As these removals necessarily imply the p vision of accommodation elsewhere, the Univer should take the opportunity that has been offered i acquiring the Foundling Hospital premises, which wo afford all the space that is at present needed for pu collegiate premises, and could itself find a home in of the many great mansions of which the sale of on another is an almost daily occurrence. With its acqu ment of a new home, and its consequent assumptio fresh dignity and importance, the University will do less have to provide for a large accession of stude who will come to it from all parts of the Empire, an view of this by no means remote contingency, the Se should jump at the offer on advantageous terms of a so conveniently situated as that of the Foundling H pital. The premises would do very well as a makes until a stately college could be built, and would im diately serve to relieve the ever-growing pressure King's and University. Nor ought we to have to long for the University buildings proper. When a s on them shall be made is, of course, merely a ques of money; and that the necessary funds will be e and rapidly forthcoming we should advance the opi with absolute confidence but for the threatened poverishment of our country by the epidemics of str and of slacking. In a letter to "The Times" advoca the extension of the college system, Sir Philip Ma refers to the destitution of South London in the matte homes of higher education. It is a timely remin A few colleges of university standing would rede architecturally as well as educationally, the vast wil ness of South London from its almost incredible as of meanness and degradation.

"The Art of E. A. Rickards"

The publishers request us to state that, as the prep tion of this volume is now far advanced, the lis subscribers to be printed in it must shortly be cl Those subscribers who desire to be included sh therefore send in their names without further delay.

The Week's News

Land Deal at Victoria Station

he large island site at Victoria between Wilton Road Vauxhall Bridge Road, London, has been bought n the Duke of Westminster by a syndicate. The ney involved is half-a-million pounds. The site, from isiness standpoint, is invaluable.

R.I.B.A. Opening Meeting

he R.I.B.A. will hold their opening meeting of the ion 1920-21 on Monday, November 1, at 8.30 p.m., n the President, Mr. John W. Simpson, will deliver naugural address. The vote of thanks to the Presi- will be moved by the Right Hon. the Earl of Craw- and Balcarres, as Honorary Associate of the B.A.

Mansion House "Vandalism"

r. Josiah Gunton, a well-known City architect and iber of the City of London Corporation, tabled the wing resolution for consideration at last week's ting of that body: "That, in the opinion of this rt, the defacement of certain portions of the stone- of the Mansion House by painting is an act of lalism, and that the General Purposes Committee be ucted to give directions for the immediate removal of offensive paintwork."

Death of Mr. T. L. Watson

ie death is announced, at the age of seventy, of Mr. . Watson, F.R.I.B.A., the well-known Glasgow itect. Mr. T. L. Watson served on the Council of R.I.B.A., was President of the Glasgow Institute of itects, and of the Architectural Section of the Royal osophical Society of Glasgow, hon. president of the gow Architectural Association, and responsible for ge amount of ecclesiastical, public, and domestic .

Land for Housing

John Oakley has issued his award as arbitrator in a by Lord Forster against the London County cil in regard to the compulsory acquisition of 134 of land, situated at Bellingham, near Catford, for ng schemes. The claim was for £79,000, while the lon County Council put forward a valuation of 519. The County Council is to pay Lord Forster the of £31,529, and the claimant is to bear his own costs, ay the costs of the County Council so far as such were incurred after an offer for the land had been by the Council.

Walthamstow Guild Houses

ontract has been signed between the London Guild ilders and the Walthamstow Urban District Council e erection of 400 houses on the Higham Hill estate, iamstow. The contract is one of a group amount- o over £1,000,000 which is being negotiated in is parts of the country by guilds of builders recruited the National Federation of Building Trade Opera- The insurance liability is limited to 20 per cent. estimated cost. The price paid is the prime cost terials and labour at standard rates, with the addi- f a sum of £40 per house to enable the guild to ntee continuous pay to its workers in all contin- es, and 6 per cent., calculated on the estimated cost, vide for plant and administrative expenses.

Ex-Service Men for Building

ployers and employees of the building trade in ury have agreed on a scheme whereby unemployed vice men may work on the public building scheme the winter. It is proposed that the Salisbury T.C. should undertake the erection of twenty houses on which unskilled ex-Service men should work under the direction of a few skilled operatives. The whole work will be supervised free of charge by an advisory committee consisting of three employers and three employees. The masters have agreed not to employ on subsequent work semi-trained men until all skilled men in the city have found employment. The town council have sanctioned the scheme, provided the Ministry of Labour will refund any excess in the cost of this scheme over the cost of contract-built houses.

Height of New Rooms

The question whether rooms in new houses should be 8 ft. 6 in. in height, as provided by the London Building Act, or 8 ft., as decided by the Ministry of Health, has been discussed by the London County Council. The Finance Committee recommended that the Ministry's decision should be adopted in making loans of about £1,000,000 for housing to several London boroughs. A member of the Council complained that the L.C.C. was placed in a difficulty by the Ministry. Another member said that, although he recognised the change in the height of the rooms was contrary to the London Building Act, as the Minister of Health had decided to make the change the Council must leave the responsibility of sanctioning it with him. The recommendation was agreed to.

London University Site

The Senate of the London University have accepted the Government's offer of the Bloomsbury site for the University. The Senate has laid down the following conditions: The grant for maintenance, rates, etc., shall not be counted as a portion of the grants made to Universities for educational purposes. The allocation of the site between the various buildings to be erected thereon shall be at the sole discretion of the Senate of the University. The University shall retain, and King's College shall retain, full possession of their present sites and buildings until the new buildings are ready for occupation and free from debt. The buildings to be erected for the University headquarters shall be, as regards dimensions and design, in accordance with plans to be agreed upon between the Senate and the Treasury. The terms of the removal of King's College from the Strand to the Bloomsbury site shall be a matter of negotiation.

L.C.C. and Housing

At the last meeting of the London County Council a report presented by the Housing Committee stated that the number of houses completed under the Council's Housing Scheme was 165, of which 126 were on the Old Oak Estate and thirty-nine on the Norbury Estate. Mr. P. A. Harris said the report of eighteen months' housing work was not satisfactory. The committee emphasised the fact that progress with building operations was being seriously delayed owing to the shortage of labour, especially bricklayers, of whom about 120 more were at present required for contracts on the Old Oak, Norbury, and Roehampton estates. Until they could put thousands of men on this work, there was no hope of any satisfactory progress being made with the housing problem. They were told there was a growing number of unemployed who were skilled in work nearly allied to building. Lord Eustace Percy explained that much time had been occupied in preliminaries, which were now settled, and he believed that the work would now be proceeded with vigorously. The minutes were confirmed.

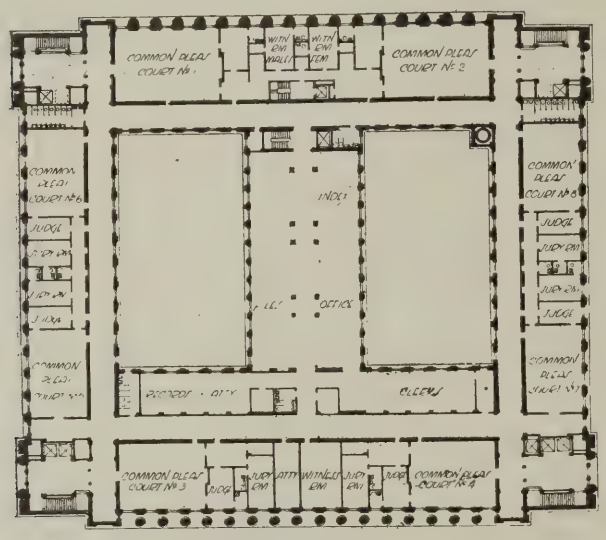
(*News continued on page* 473.)

A Great American Courthouse

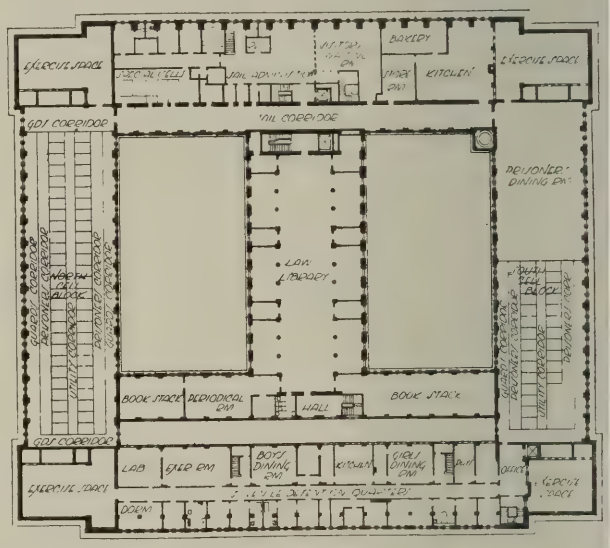
OUR American confrères continue to exploit the monumental manner with considerable effect. British architects, looking through the current issues of the American architectural magazines, must often envy their transatlantic brethren the splendid opportunities they have for self-expression in the grand manner. The demand for giant courthouses, hotels, railway terminals, and so forth, seems to be as great in the States as the demand in this country for small houses. Buildings as big as St. George's Hall, Liverpool, seem to spring up regularly every month, or even at more frequent intervals. How different from this country, where a new town hall is quite an event!

The latest example to come to our notice is the Hamilton County Courthouse, recently completed from the designs of Messrs. Rankin, Kellogg, and Crane, and illustrated in the current issue of the "Architectural Forum." From the reproductions which we give in this issue it will be seen that this building fully maintains the high standard of academic design that has been reached in the United States. French influence is not quite so apparent as it usually is in work of this class; deed, American architects seem now to be turning m to the work of the English Classic Revival period their inspiration. The treatment of the Law Library, example, seems to owe a good deal to the influenc Soane.

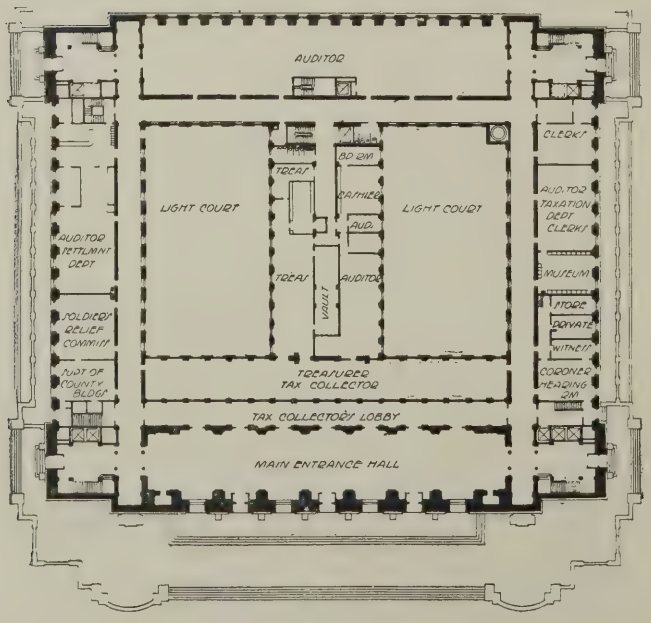
The giant colonnade is still very popular with Am can architects, especially in connection with pu buildings of any magnitude. That a fine range of colu imparts a dignity of effect that is otherwise very diff to obtain must be readily admitted; but the constant ployment of this feature tends rather to monot besides somewhat stultifying the artistic imagination the present instance it is supremely well done; the building leaves one a trifle cold. The whole fa (see frontispiece) seems to lack emphasis—it sin begins and ends. If only the centre doorway had rece some sort of distinctive treatment the effect would been immeasurably improved. As it is, there is no f point to satisfy the eye. The total conception, howe is one that is full of dignity and restraint.



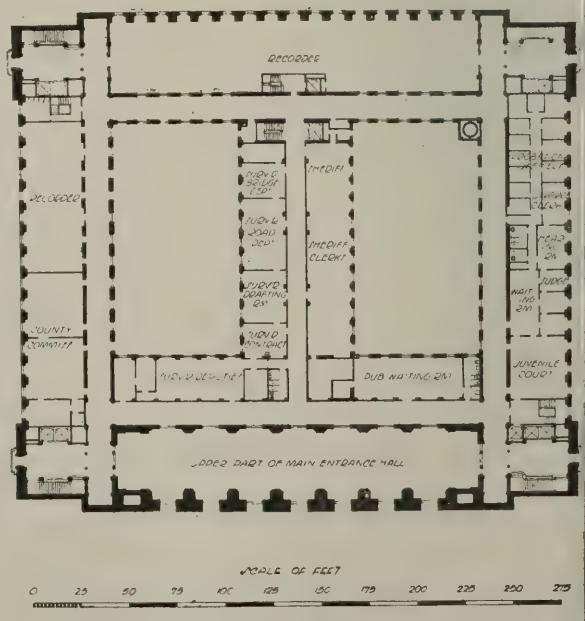
Second floor plan.



Fifth floor plan.



Ground floor plan.



First floor plan.

HAMILTON COUNTY COURTHOUSE, CINCINNATI, OHIO. RANKIN, KELLOGG, AND CRANE, ARCHITECTS.

HAMILTON COUNTY COURTHOUSE, CINCINNATI, OHIO: THE LAW LIBRARY.

Compulsory Dilution and the Operatives

MR. LLOYD GEORGE addressed a deputation of London Mayors last week upon the problem of unemployment, and in the course of his remarks defined the attitude which the ernment propose to adopt with regard to the admis- of more men into the building trade.

eferring to housing, he said: I wish more could be in this respect. There is a need for hundreds of sands of houses in this country—a real need. That t a thing upon which anybody can turn round upon ıfterwards, in five years' time, and say, "Why were ıese houses built?" The houses are needed. The hat the houses are not there is really interfering even trade development in this country. Houses are ed, and in the building of these houses I have no t at all that a very considerable number of ex-Ser- men could be employed. We have done our best the building trades to secure a relaxation of their that would enable the Councils to employ ex-Service ıpon house building. We have found them very cy." If they will let in the ex-Service men, it is

Carmichael (secretary, London Trades Council): ɔu give any guarantee that in years to come, when ɔusing rush is over, the union men will have work

e Prime Minister: They must take their chance with st of the community; but to say that 180,000 ex- rs in this country are to starve because ten years , when these houses are built, they may find them- out of a job is a perfectly selfish proposal. We are to employ ex-Service men on building, and if the ıg trades object to it they must take their chance.

ıe of the Labour members of the deputation pro- that there were obstacles other than those to which rime Minister referred, notably the shortage of t and timber and congestion of the docks, but Mr. Lloyd George adhered to his statement, and said that the other matters would be fully enquired into.

In an interview which a representative of THE ARCHITECTS' JOURNAL had with an official of the National Federation of Building Trade Operatives, it was suggested by the official that if the Government wished to employ ex-Service men on housing schemes, the best thing they could do would be to start a union of their own, and make their own materials, rather than try to interfere with the organisation of the existing unions. The operatives would much prefer this. The position at present is that the unions have neither made up their minds to accept or reject the dilution scheme of the Ministry of Health. The scheme has, of course, been before the Building Trades Resettlement Committee for some time. The main point in it is the relaxation of apprenticeship rules to allow ex-Service apprentices to be trained up to twenty-six years of age. The ex-Service men would be paid trade union rates, and given the same safeguards against unemployment as would apply to all building workmen.

The only union that has expressed an opinion is that of the Operative Bricklayers, which has approached the Government to ask what guarantee will be given that the interests of members of the unions will not suffer if the scheme is accepted. The unions are afraid of serious unemployment in the future, and they want some security against this before accepting dilution.

One view among the operatives is that the unions should give the dilutees temporary membership, the dilutees to observe the union requirements and pledge themselves to leave the building trades when the bad times come.

However, the whole question will have been gone into, and maybe some decision have been reached, at a meeting of over a hundred and fifty representatives of the operatives' unions held in Manchester this week.

Architectural Causerie: Buontalenti's Villa

THE subject of the Villa Artimino, which I broached last week, prepares the way for a discussion of the career of its architect, Buontalenti (Bernardo Timante), whose fame as a designer has been somewhat overshadowed owing to the attention of students of Italian history being mainly given to the better known architects of Florence, Venice, and Rome. In Ruggieri's book, which was published at Florence in 1755, several specimens of Buontalenti's detail are shown, but no comprehensive survey of his superior works is given. Bernardo Buontalenti, we are told, was born in Florence in 1535 or 1536. Particulars of his early career are not forthcoming, but he appears to have acquired some renown as a deviser of stage settings and theatrical appliances, which earned for him the name Dalle Girandole. At the early age of fifteen, it is said, he attracted the notice of Cosimo I., who was created Grand Duke of Tuscany in 1570, and was appointed drawing master to his son Francesco.

* * *

His connection with the powerful Medici family in a purely architectural capacity begins with the patronage of Francesco, for he travelled to Spain with this patron in 1563, and when the latter was Vice-Duke built a country residence for him six years later called Pratolino, of which Ruggieri gives details. A few years later he was engaged on the Casino di San Marco, a work followed by designs in preparation for the baptism of his patron's infant son. His future career as an architect was now certain, although it is recorded that he died in poverty in 1608. For some considerable time Buontalenti had charge of all affairs connected with public events such as exhibitions, arrangements for funerals, and the control of stage settings. He was also appointed superintendent of the civil and military buildings. For Francesco he designed the stanze or apartment over the Mint, the door under the vault of the Uffizi, and an important doorway to the Palazzo Vecchio, as well as additions to this palace on the eastern side.

* * *

Among a long list of minor works appears a corridor half a mile long from the Uffizi Nuove to the Pitti Palace, and additions to the State apartments of that palac well as a grotto in the Boboli gardens. The year 1 saw him at the zenith of his activity, for he was enga on the villas of Capponi (illustrated on Plate 49 in Lowell's book), of Magia now called Amati, anc Artimino or Ferdinando completed in 1594, which wi described later. At this period he was entrusted the reparation of the villas called Petraia and Cas (the former is shown on Plate 60), besides many o buildings in Florence, including additions to the ran palaces.

* * *

At the close of the sixteenth century Buonta occupied a high position in Florence as an architec exceptional ability—which led to his being consulte a military engineer at Naples and Leghorn, as well a Prato and Pistoja. In Florence he wielded consider influence over the studies of his contemporaries, and one of the first Italian architects to instal pupils unde own roof. Among the pupils were the following: son, Francisco, who completed some of his fat works; Giulio Parigi; and the noted Gherado Sil who made a big reputation in the seventeenth centu

* * *

The villa of Artimino must be recognised as instance of Buontalenti's best domestic manner, if for its reposeful quality and direct simplicity. F nand I., Grand Duke of Tuscany, for whom this cou seat was planned, succeeded to the title in 1574. Tw years, however, elapsed before the incident occurred led to his choosing the site in a moment of imp Artimino stands on rising ground, and is approache a direct road which enables the whole of its exqui proportioned front to be taken in at a glance. Fr distance the harmonious grouping of the windows a the recessed loggia and the faultless disposition of to solid proclaim it to be the residence of a man of and distinction. In aspect it is eminently Tuscan appears to grow out of the countryside, to be, in fa product of the landscape, and while expressing the nity of its lineage, does not disdain to rub shoulders the simpler habitations of the small farmers an

ROYAL VILLA OF POGGIO A CAJANO, NEAR FLORENCE.

Details of Craftsmanship. 5.—A Wall Cupboard of Carved Mahogany (circa 1725-30)

A perfect example of mid-eighteenth century design and craftsmanship; egg-and-tongue, guilloche ornament, shells, strings of beads, and other decorative devices being introduced with admirable effect. The whole rests upon a plinth carved with leaf ornament.

UNIVERSITY OF ILLINOIS LIBRARY

DEC 6 1920

santry. What would one not concede for the opportunity to design in similar vein, unfettered by such restrictions as the over-windowing of the walls which mar the majority of modern English houses. We miss the English system of grouping the chimney stacks, but we not cavil at the miscellaneous flues of varied shape that start themselves through the mellowed tiling; they are formal, and so delightfully Italian. A nearer view of Artimino justifies further praise. We can study the daring indifference of the designer in the way he conducts the entrance steps over a ramp to the level of the loggia, the slender columns of which carry on the feeling of lightness most gracefully and blend with the flat roofing both easily and naturally. If the details of the back and front elevations are consulted this seeming insouciance will be seen to be the work of an artist who could interpret realities with that disinterested attachment which begets masterpieces.

* * *

Judging from Ruggieri's coarse line drawings of Buontalenti's work, one would never expect to find the refinement of detail so carefully and judiciously studied as it is at Artimino. Ruggieri, perhaps unintentionally, maligned Buontalenti, and we owe him a grudge for it. The principal rooms of the villa are vaulted in a way peculiar to Florentine practice, ornament being conspicuous by its absence, and architectural effect gained solely through the agency of geometry. AERO.

THE VILLA OF ARTIMINO. BERNARDO BUONTALENTI, ARCHITECT.

First Principles in Building Constructior

By ROBERT F. SHERAR, Architect

IN a previous article by the author the equilibrium of a number of forces acting together as a system was investigated by taking the various forces in pairs, without, however, defining the actual governing conditions. Each pair was fully specified with the assistance of sketches, but no means were described for connecting the various pairs with one another.

In order fully to specify a force and to define the relationship that a number of forces bear with one another it is necessary to state its magnitude, direction, sense, and point of application to a material body, but the word direction as used colloquially is rather an ambiguous term, every line having two directions or senses, and any number of parallel lines represent the same two directions.

Let us therefore understand "direction" to mean only the angle of a line in space, which, when dealing with coplanar forces, will be fully specified by the angle it makes with some datum as a horizontal line.

With the word "sense" there can be no mistake, it is usually indicated by an arrow head or two letters, as A B, meaning from A towards B, and if to these we add the word "path" of a force (for descriptive purposes), meaning its actual line of action or position in space, usually expressed by a line on plan and elevation of the body or structure, then the "point of application" will be some point on the body or structure intersected by the "path." But as the force may be pushing towards the body or pulling away from it, it is still necessary, when considering the effect on the body itself, to specify the actual point to which the force is applied.

By examining a system of forces in pairs as described we should distinguish three resulting dispositions or grouping of the forces having different effects.

First (Fig. 1). One force (or resultant of several in same path) having a tendency to move the body in a straight line *translation*.* This is counterbalanced by an equal and opposite force in the same path producing a compressive or tensile stress in the body according to the sense.

Second (Fig. 2). Two forces (or resultants from two groups), opposite and equal and not in the same path. This is called a "couple," and has a tendency to rotate the body, which can only be counterbalanced by a couple of opposite and equal moment.

Third (Fig. 3). Three forces (or resultants from three groups), disposed as shown, having a tendency to bend the body at the point P (which is equivalent to the portions of the body on either side of P being turned in opposite directions Fig. 9 by couples).†

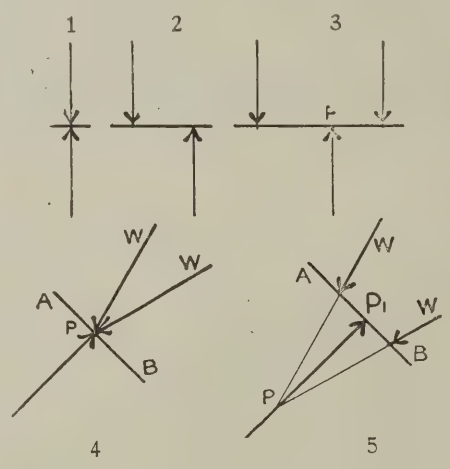
When two forces act at an angle with one another as W W in Figs. 4 and 5 their combined effects are concentrated at P (the intersection of their paths), which is either in or on the body A B, as in Fig. 4, producing with their equilibrant a compressive stress at that point very similar to Fig. 1, or outside the body altogether, as in Fig. 5, producing a bending effect at P very similar to Fig 3.

We should now recognise the two underlying principles governing equilibrium, viz., the tendency to rectilinear movement called translation, and to rotary movement or turning, and we can now state the general conditions of equilibrium of coplanar forces.

First condition: The algebraic sum of the components of all the forces acting on a body taken respectively parallel to any point in the plane must equal zero. This guards against any tendency to translation.

Second condition: The algebraic sum of the movements of the forces about any point in the plane must equal zero. This guards against any tendency to rotation.

By algebraic sum is meant, in the first, the sum after prefixing + to components of one sense and — to those of the other sense, and in the second, the sum after prefixing + to the moments tending to



turn the body one way and—to those tending to turn the body the other way, and the nearer the two directions in the first are to a right angle, of course, the better.

Moments are of the very greatest importance and use, and are easily defined, but as there are four different descriptions to deal with, all giving similar results, but under different names, and as these are often used in a way that is rather confusing, a note of them here will be found useful.

(a) The moment of a force about any point is an expression of the power of the force to turn a body round that point. The point is called a fulcrum. A single force by itself, however, cannot produce rotation (see Fig. 1), but as every force exerted must have a reaction, and as the reaction in this case acts at the fulcrum, what is called simply the moment of a force is in reality the moment of a couple (Fig. 2).

(b) The moment of a couple is an expression of the power of two opposite and equal parallel forces to turn or rotate a body (Fig. 2).

(c) A bending moment is an expression of the power of three forces, arranged as in Fig. 3, to bend a body at the point P. We have already seen (Figs. 3 an that this is the effect of two couples, e of which is a measure of the powe bend, so that a bending moment is a reality the moment of a couple.

(d) The moment of resistance is expression of the power within a bo resist bending, and will be shown lat be also the moment of a couple. (Fi

The initial difficulty, however, in ing with moments is that they are pressed in a compound notation of of measurement (representing the l of the lever arm) multiplied by uni weight (representing the force), thu have inches multiplied by lbs., g what are called inch-lbs., feet mult by tons, giving feet-tons, etc., an confused state of our imperial mea increases the difficulty. To reduc lbs. to in.-cwts. we divide by 112, a reduce ins.-cwts. to feet-cwts. we d by 12, etc., and vice-versa. If, hov we at first stick to inch-lbs., it will confusion, we will then have for wo purposes inch-lbs., subject to all the of ordinary arithmetic, but inc divided by inches give lbs., and di by lbs. give inches. Moments are subject to algebraic addition by pre + and — for opposite rotations as al stated. Minus usually meaning cloc and plus the reverse

Consider a wheel working freely its axle P (Fig. 6) with a string att to its edge, supporting a weight of The weight gives rise to a dow force of 2 lbs., but this does not e its power to turn a body round the P, for when the weight hangs at 1 no power whatever to turn any round P. When it hangs at 2 its po turn (or the *moment about P*) is 2 l 4 inches = 8 inch-lbs., and when it at 3 the moment is 2 lbs. × 6 incl 12-inch-lbs. In each case the cou formed by the weight pulling down and its reaction at the fulcrum P upwards.

It should be noticed here partic that the lever arm is always me perpendicular to the direction of th whatever the shape of the materia necting lever may be.

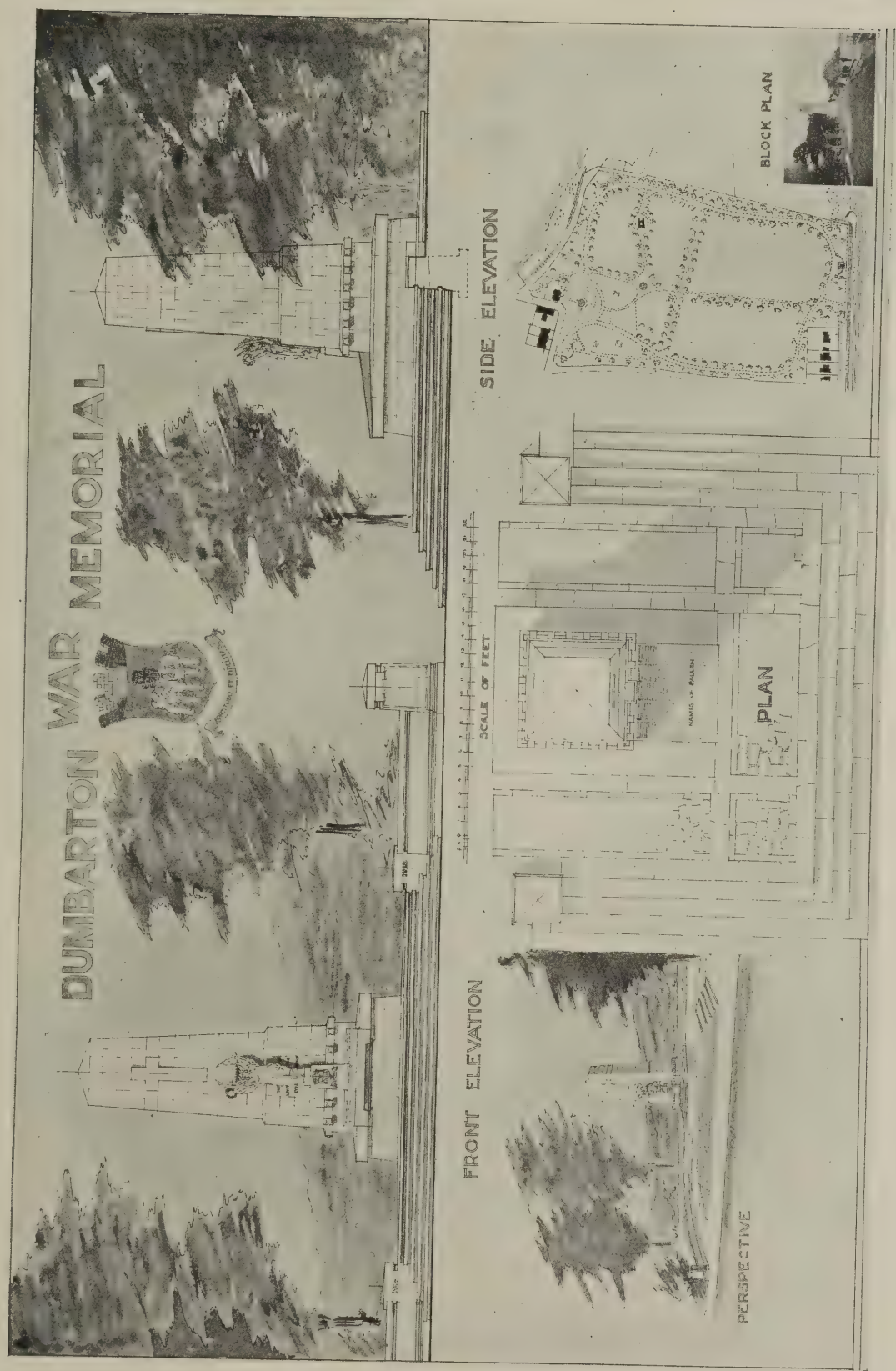
Suppose now when the weight is ing at 3 a similar force is pulling u at 4, this would form a coupl moment of which would be 2 l 6 inches) + (2 lbs. × 6 inches) = 2 lbs. *The moment of a couple*, ho is usually expressed by one of the only multiplied by the perpendicul tance between their paths, in this 2 lbs. × 12 inches, which, of course the same result 24 inch-lbs. The of this is that the point P has noth do with the matter, for there woul tendency to rotation whether the axl there or not. Consider now two v of 2 lbs. and 3 lbs., arranged and on a lath as shown on Fig. 7. Neg the weight of the lath, the 3 lbs. greater moment round P than the The whole would, therefore, owing to the couple formed by the and its reaction at P, and would fa doubt there would be a tendency t also, but this would be qualified dynamic effect of the movement, ar

* A single force will produce rotation as well as translation unless the c.g. of the body lies in the path of the force owing to the inertia of the body along with the applied force forming a couple, when it should come under the second group.

† The body is assumed to be rigid, unbendable, so that the path of the force through the body will not change.

Monuments. 3.—Dumbarton War Memorial Competition: Accepted Design

Sir John Burnet, Son, and Dick, Architects



This design, which received first place in the recent competition, comprises an obelisk with a figure of Peace overshadowing a plate to bear the names of the fallen. It is proposed to face the monument with Auchenheath stone, which has proved to be durable and to weather well. The cost is estimated at £2,350.

UNIVERSITY OF ILLINOIS LIBRARY

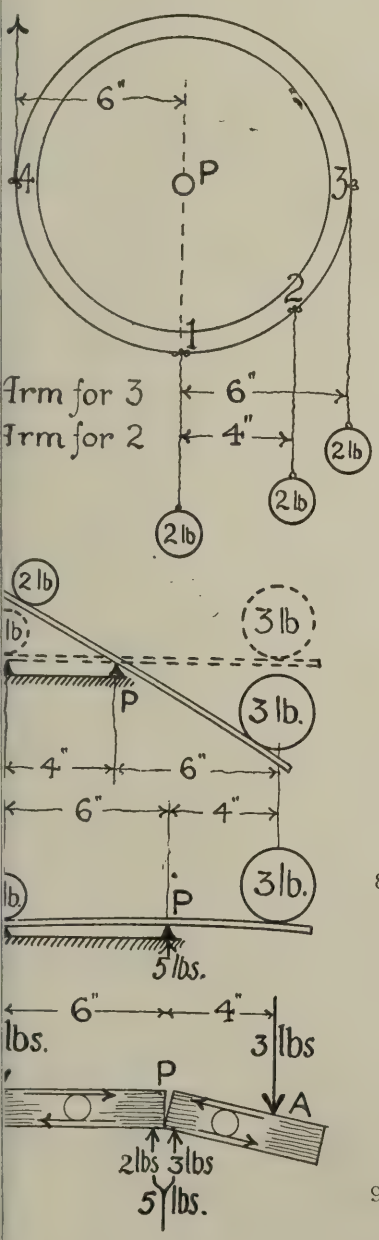
DEC 6 1950

t come under the scope of statics. Now ve the lath further on to the supports in Fig 8, when the weights would be anced on the support P. P therefore ries the whole weight forming a ction of 5 lbs. at that point, and we d the *bending moment* to be 3 lbs. × nches on the one side or 2 lbs. × 6 hes on the other side = 12 inch-lbs. d this would not be increased whatever ght were added to the 2 lbs., because bs. is all that is required to balance the bs., and if the 2 lbs. were increased the rease would simply be supported at R. Ve see, therefore, that the bending ment at P is equal to the moment of bs. at A about P, which again is equal couple formed by the 3 lbs. at A (Fig. and the 3 lbs. reaction from same P, together with the couple formed by 2 lbs. at B, and the 2 lbs. reaction n same at P.

'he division of the total reaction of bs. at P into its components of 2 and important with reference to shearing should be carefully noted.

hen, lastly, we come to the *moment resistance*, which we can see in 9 consists of two couples, one on n side of the section of the beam or y at P, formed by the horizontal resistance to tension in the top flange or boom in lbs., or the horizontal resistance to compression in the bottom flange or boom is lbs. multiplied by the perpendicular distance between them in inches (the lever depth of the beam), giving rise to the standard equation, from which the strength of beams is calculated, viz.: The moment of resistance must equal the bending movement. If Fig. 9 is turned upside down it will represent the conditions of a beam supporting a single concentrated load of 5 lbs., on a span of 10 inches, at 4 inches from one end, with reactions at the supports of 3 lbs. and 2 lbs.

From these four different ideas of moments we can see how easily the term is confused, and we should note that all four are expressed in exactly the same way, viz.: a single force multiplied by a lever arm. And later we will see that this description will enable us, with the aid of simple addition, to recognise the bending moment of a beam at any point under any system of loading with comparative ease.



Enquiries Answered

The Editors cordially invite enquiries from readers who require information on architectural, constructional, or legal matters.

Answers to enquiries are in all cases the work of experts; and while every care is taken to make the replies thoroughly reliable, the Editors cannot hold themselves responsible for any inaccuracies that may inadvertently occur.

Correspondents whose difficulties involve possible legal proceedings are strongly urged to consult their solicitors before taking action on any advice that may be given.

Examination questions cannot be answered.

It must be understood that, as a rule, both question and answer will be published in these columns. The name and address of the querist must always be given, not necessarily for publication.

Correspondents are requested to be as brief as possible, and to write on one side of the paper only.

Tinting of Modelled Plaster Panels.

H. and C. write: "We are interested in the production of some modelled plaster panels, size about 2ft. by 2 ft. 6 in., containing figure subjects in relief. The plaster panels have been treated with a dressing of linseed oil and a thin transparent varnish to protect the surface and obtain an ivory tint. We now wish to have these panels tinted in sepia and ivory tones to produce the effect of old stained wood and ivory carvings. Oil paint looks too glossy and artificial, and we find eggtempera inclined to rub off. It is very important that the medium should be permanent, durable, and not glossy, but semi-flat when finished. The panels are for interior decoration in a church. Is there any standard work on paint or plaster which would help us?"

—It is assumed that what is known as an egg shell finish is required. First treat the panels with a coating of Young's patent size; the size should be warmed with a little water and a little turps added when warm; apply in the usual manner. Then cover the panels with "Duresco" in one or two coats as necessary to produce a good surface, mixed with a little turps with just enugh varnish added to set it and prevent it rubbing off. Then tint to the required tone with sepia, Bismarck brown, or umber. If the panels are carved with small detail, the coats should be applied as thinly as possbile and care taken not to fill up the hollows of the enrichments. The close imitation of wood and ivory carving depends a great deal upon the ability of the man actually executing the work, so that it is important for him to have a good example to use as a pattern and to obtain the services of a man accustomed to this kind of work. We do not know of a standard publication dealing particularly with this kind of work.

W. S. B.

Laying a Hard Tennis Court.

With further reference to "E's" enquiry in our issue of October 13 for laying down a hard tennis court, a correspondent informs us that concrete courts in which "Ferrolithic" has been embodied have been laid down with great success.

Blacking Cement.

M. H. writes: "Please inform me whether there is any process for satisfactorily blacking cement mortar for use in brickwork."

—The best method of blacking cement mortar is to substitute foundry sand or smiths' ashes for the ordinary sand. If these are unobtainable the same result can be secured by mixing with the cement mortar lamp black or vegetable black to the required tint; but, as adding colouring matter is apt to have an injurious effect on the cement if this method is adopted, it is advisable only to rake out and point with the coloured mortar. W. S. B.

Clifton Suspension Bridge.

A. P. writes: "In your issue of October 13 you state beneath the air view of Clifton Suspension Bridge that the structure is calculated to bear a burden of nine tons per square inch. Please inform me whether this is correct."

—"Our statement with regard to the bearing capacity is quite correct. It should be noted, however, that nine tons per square inch is the safe load, but it would probably carry as much as fourteen tons per square inch.

Tennis Court in Brick Blaze.

N. L. writes: "Can you give me particulars of the composition of surfaces of hard lawn tennis courts finished with brick blaze? I am particularly desirous of learning the exact screens used for each layer, as upon these depends the "speed of the courts."

—The efficiency of a hard tennis court depends to a great extent upon its being properly drained with a system of land drainage, and on the finishing layer of burnt clay clinker being accurately levelled and rolled. For the formation of such courts, it is advisable to have experienced workmen and expert supervision.

Lacquers and Japans for Furniture.

B. W. A. writes: "Do you know of any small practical guide to coloured lacquers and japans such as those used on old lacquered furniture?"

—There is an article on "Methods of Lacquering Furniture" in Cescinsky's English Furniture of the Eighteenth Century," published by George Sadler and Co., 207a, Borough High Street, London, S.E. This is a large volume. We know of no small handbook on this subject.

The Progress of Architectural Education*

By A. W. Hennings, F.R.I.B.A.

Until 1914 the development of the practice of architecture was running in ordinary channels, sometimes quietly and peacefully and sometimes the enthusiasts gave us all a good shaking up; but, speaking broadly, any well-informed man could see pretty clearly where we were going. We followed old well-known ways, and the things done at the centres of civilisation gradually found their way into the newer countries, and again the methods of meeting the difficulties inseparable from the fresh conditions in remote places modified and affected the work done at home, but quietly and very slowly. It was all on the lines of peaceful, quiet revolution. But like a volcanic eruption came the world-war, and at the end of it we find our peaceful meandering paths torn up and distorted, and the aspect of things totally changed.

As brave, reasonable men, we have to face this, and apply ourselves to meet the new difficulties. This eruption has certainly speeded up the change in the methods of architectural education. The change was coming, anyone with eyes could see it, the old system of pupilage was gradually developing into classes and schools, and in the course of years no doubt the old order would have changed into the new without trouble. Now, do not condemn the old system of articled pupilage—it served its purpose well, and the elder men amongst us who had the good fortune to be articled to able and enthusiastic men can and do remember with gratitude and affection the kindly help received from our masters, and can call to mind how we gradually became their colleagues, and how good it was now and again to meet old masters and old fellow-pupils at meetings or conferences, and so a most delightful comradeship was gradually built up.

If you look up Pugin's life you will find that in his time pupils were articled for seven years and had to live in the same house with their master, beginning the daily work at 7 a.m. Gradually the term of years grew less, and at the same time voluntary classes came into being, and as these were the outcome of enthusiasm much good work was done for many years.

Looking back, I can call to mind that many men who have since made their mark, such as Sir Aston Webb and Leonard Stokes, showed in their designs in these classes just that little bit of extra go that is all the difference between ordinary and good work. And the volume of work done in those classes was tremendous. Remember these men were working all day at the office of their master, and had to prepare their designs in their spare time. We used to have a fortnight to prepare such things as a town church to seat 1,000—drawn to ⅛th scale, and the following fortnight for ½ in. scale details of the same. Glorious enthusiastic days they were—the students worked hard, and many men in active practice gave their time as visitors to criticise and help the workers. Do you wonder that there is a natural regret that such times and manners have passed?

Gradually these classes were welded together into a system, and it was found necessary to hold them during the day, and the R.I.B.A. form of articles provided that the master should allow the pupils time during working hours to attend them. Experience soon showed that this did not work well. Office time was broken—the school hours were scrappy, and I do not think it was a good thing for either master or pupil. This was the beginning of the end of the pupilage system, and I have no doubt that in the future all architectural education will be by some form of university system, and, indeed, it must be if we want to be hall-marked by a degree or diploma, without which no man will be allowed to practice.

Whether this will result in better architects may be a matter of opinion—genius will out under most adverse conditions—but I think we may be quite sure that the general level will be raised to an appreciable extent, and that is all to the good.

Progress has been wonderfully accelerated by the war, and in Manchester the University School of Architecture has had a great accession of numbers. In London the Architectural Association School has more than 200 pupils, and spends something like £1,600 per annum in expenses of tuition, and no doubt a like expansion is taking place wherever there is some system of teaching.

It is a glorious opportunity to these institutions, and it is our duty as architects to help in every way—not to stand aside because we regret past ways, but frankly to recognise the change that has and is taking place, and to see to it that we do all in our power to vitalise it. This vitalising is really the kernel of the whole matter, and if we leave it to the University Professors entirely I fear we shall get a monotonous result—all turned out to one pattern, and I sincerely hope the various schools will avail themselves of the help and counsel of such bodies as our own. Indeed, Manchester does do so, and I trust in the future will do so to a greater extent, and the more such bodies cooperate the better it will be for architecture.

*Extracts from the Presidential address to the Manchester Society of Architects.

Central Heating for Small Houses

Following the reading of Mr. Clarence M. Lyman's paper on the above subject at the Society of Architects (reported in our last issue) an interesting discussion took place.

Mr. Herbert Freyberg, proposing a vote of thanks, inquired if this system of heating by warm air resulted in fumes rising from the castings of the furnace? That was the great difficulty they had to encounter in their tests in England, and experiments had failed to overcome it. Exactly what did this one-pipe system mean? Was the stoking difficult to understand and did it require constant attention? Again, did the circulation of air carry with it the dust and foul atmosphere? He suggested that a useful way of demonstrating the system would be to have a house fitted with this method of heating at the next Building Exhibition.

Mr. Ellis Marsland (hon. librarian), in seconding the vote of thanks, said that if the question of heating was to be successfully solved they must sink all prejudice and endeavour to find some method of heating which would not circulate dust and carry with it foul air. He was not sure whether this type of heating suited to the English climate owin the vagaries of temperature. He fu stated that as a basement appeared an essential feature in a house fitted this method of heating it would add considerably to the initial cost of ho The open door also caused him alarm. For instance, he wondered use this system of heating would be person suffering from some conta disease where it was necessary fo door of the room to be kept closed.

Mrs. Lyman assured the meeting personal experience that this meth heating was in every way the most s and caused less work than any meth heating she had adopted.

Col. Hartley (Halifax) stated th did not believe in this method of h by warm air—naturally—and althou had listened with great interest h that the only real system of heatin by water.

Mr. W. W. Nobbs, president of t stitute of Heating and Ventilating gineers, London, said that as a m of the American Institute of Heatin Ventilating Engineers, he felt he wa position to judge of the merits c system advocated, and it was not spirit of antagonism that he cond this method utterly. It was old-fas and had been tried and forgotten i land. Mr. Nobbs considered th system was insanitary, causing t merely to circulate and so in time come foul, dust and so forth being until it reached the stove, and the up again into the rooms. He thou lecturer might be able to tell them a temperature the air left the stov volume and force of the air sent o the stove, and the pressure needed t the foul air out of the house. He t the lecturer took it as a proved fa the system was successful, but he like some scientific evidence on t ject as he could not accept the ported statement of any individual it as a criterion.

Mr. E. J. Sadgrove (Past Pr could not quite understand what gister as shown on the plan was in

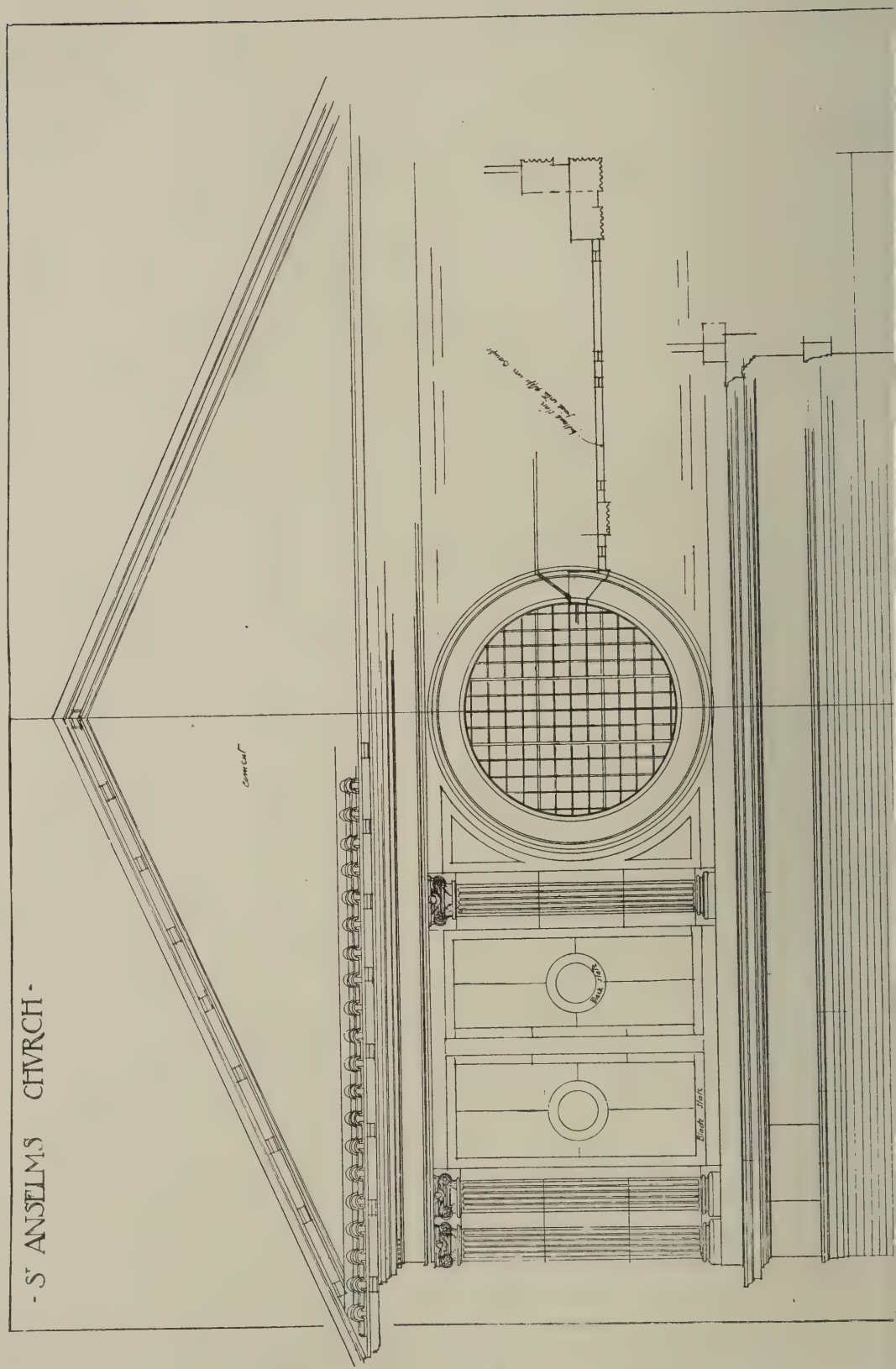
Mr. Lyman, after expressing his ciation of the vote of thanks, bri plied to the points raised. He was indebted to his colleague, Mr. N a member of the American Instit that the speaker was very much n as to the lecturer's experience. spent many strenuous hours study question of heating by other mea that of warm air. For Col. H benefit he would just like to ment vapour in his opinion was far a more satisfactory than heating water. Referring to the smell castings so frequently caused by t system of heating, he expressed that unless dust collected on the the chimney flue was closed, there possibility of any smell from the As to whether such a system c successfully used, Mr. Lyman that in the States over 100,000 h all classes were fitted with this and he had never known in all experience such a feeling of satisf existed amongst the people living houses. There were four kind which could be used satisfactor this one-pipe system, viz., anthrac lignite, and coal. As to the stok was quite a small matter, and ne little attention, and the dust ca so slight as to be negligible.

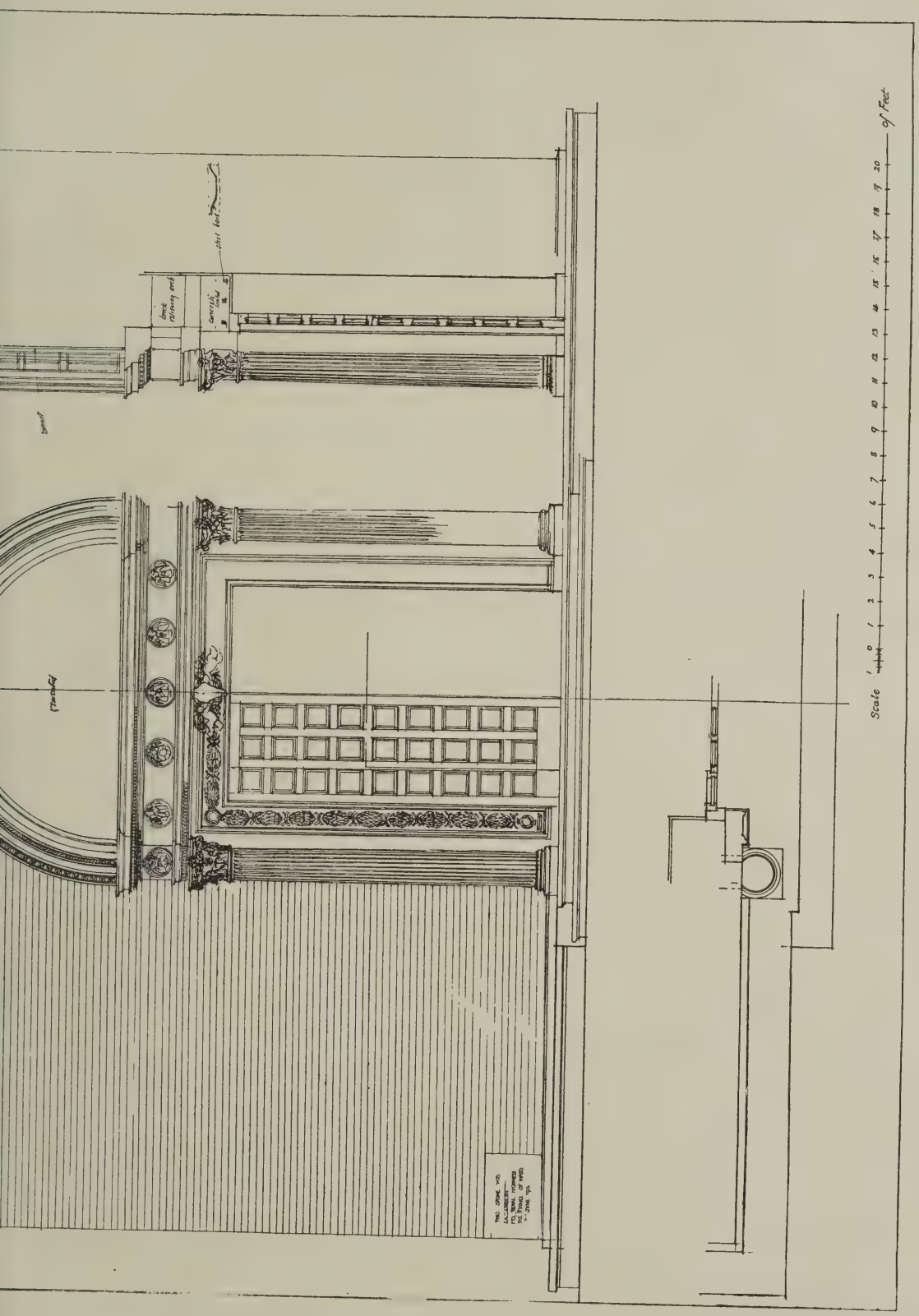
UNIVERSITY OF ILLINOIS LIBRARY

DEC 9 1936

Architects' Working Drawings. 20.—St. Anselm's Church, Kennington, London: Detail of Entrance Front

Adshead and Ramsey, F. and A.R.I.B.A., Architects





Messrs. Adshead and Ramsey's scheme for the Duchy of Cornwall Estate, at Kennington, which, as readers will remember, was comprehensively illustrated in a special issue of this journal some time ago, includes the church—dedicated to St. Anselm—of which a detail of the entrance front is shown above. The building is not yet completed, but it promises to be one of extremely fine architectural character.

UNIVERSITY OF ILLINOIS LIBRARY

DEC 6 1930

Correspondence

Association of Licentiates

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—As no doubt you are aware, the above Association has been formed with enthusiastic support from many quarters. The Executive Committee appeals to all Licentiates to join the Association and to those in the provinces to form local committees to discuss the question of unification, and delegate one of their members to keep in touch with the Executive.

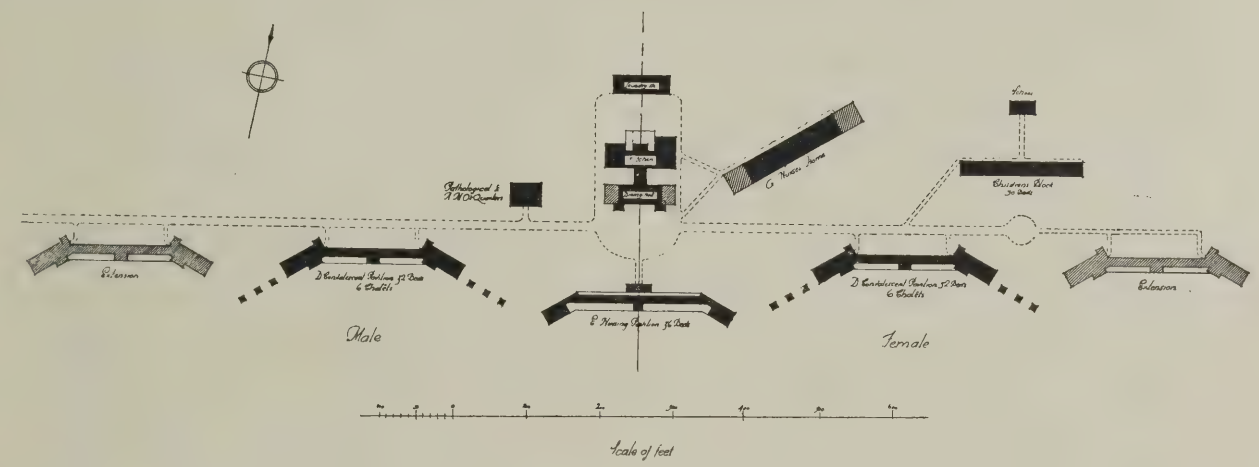
Six districts, outside London, are represented on the Executive, and it is hoped that every centre in Great Britain will be able to form a local committee, so that by correspondence the Executive may be informed on all matters affecting the position of architects, and the advantages to be derived by unification of the profession, at the same time being informed with regard to the necessary safeguards to be taken to assure the proper protection of Licentiates and others who are not at present corporate members of the R.I.B.A.

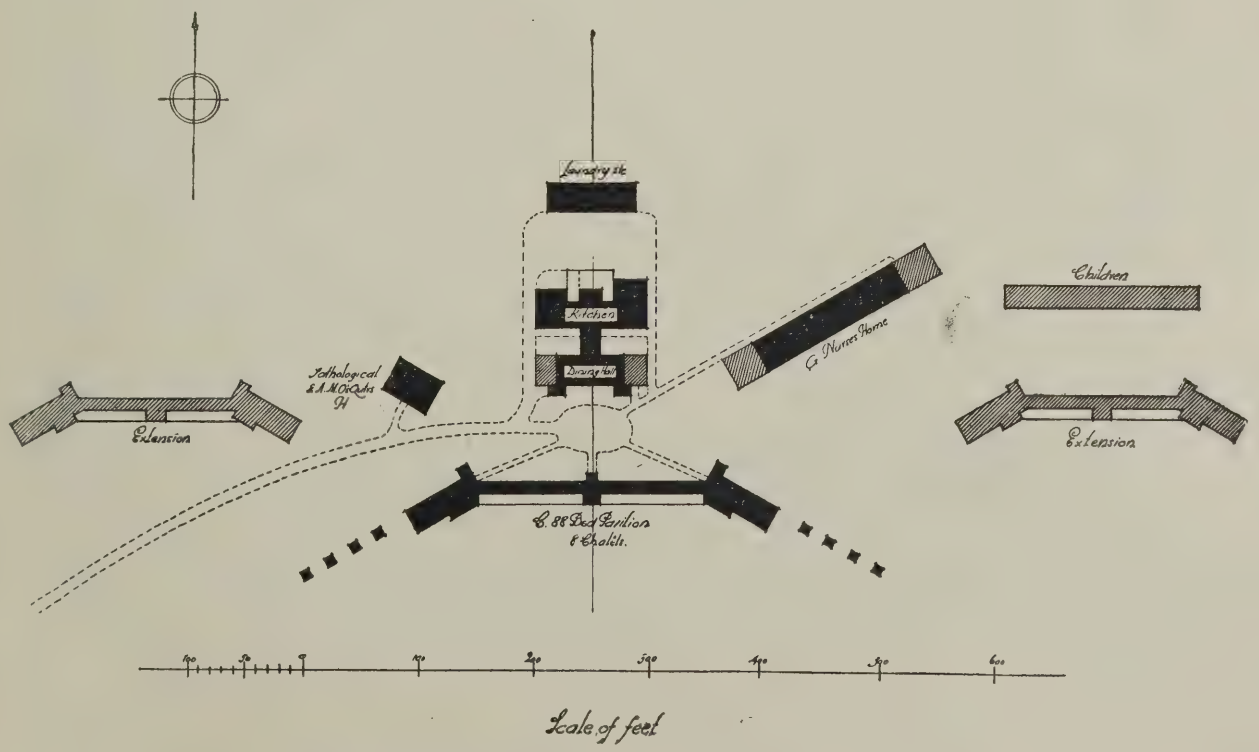
It has been brought to the knowledge of the Executive Committee that there is a wide feeling that the question of unification has been taken up by the R.I.B.A. where it was dropped in 1914, and the Committee is anxious to assure members that this is not the case.

The Committee is convinced that at the present time there is a general belief in unification as a means to the advancement of architecture, which will benefit the architect of the future, and that the old idea of "sheep and goats" has given way to an ideal which is wide enough to embrace all those who are devoted to the Arts and Crafts of Architecture and Building.

Licentiates have been invited by the Council of the R.I.B.A. to take their part in the organisation of the whole profession, and the Association has been formed that we may give of our best for the general benefit. To do this effectively it is necessary to obtain the views of some 1,750 Licentiates living in all parts of the country, and this is possible, through local committees in touch with the Central Executive, if we have the full support of the whole Licentiate class.

The Committee prefer to "let the dead past bury its dead" and to take up the question of unification as it stands at present, and those who have followed the reports of the meetings held at the R.I.B.A. do not need to be reminded that the present Unification Committee is formed of representatives of Fellows, Associates, and





SANATORIA LAY-OUTS SUGGESTED BY THE MINISTRY OF HEALTH. TYPES A AND B.

(See next page.)

Licentiates of R.I.B.A., the A.A. Members of the Society of Architects, and of unattached architects, therefore the Committee is easily representative of all architects if each section is representative of those it is elected to serve.

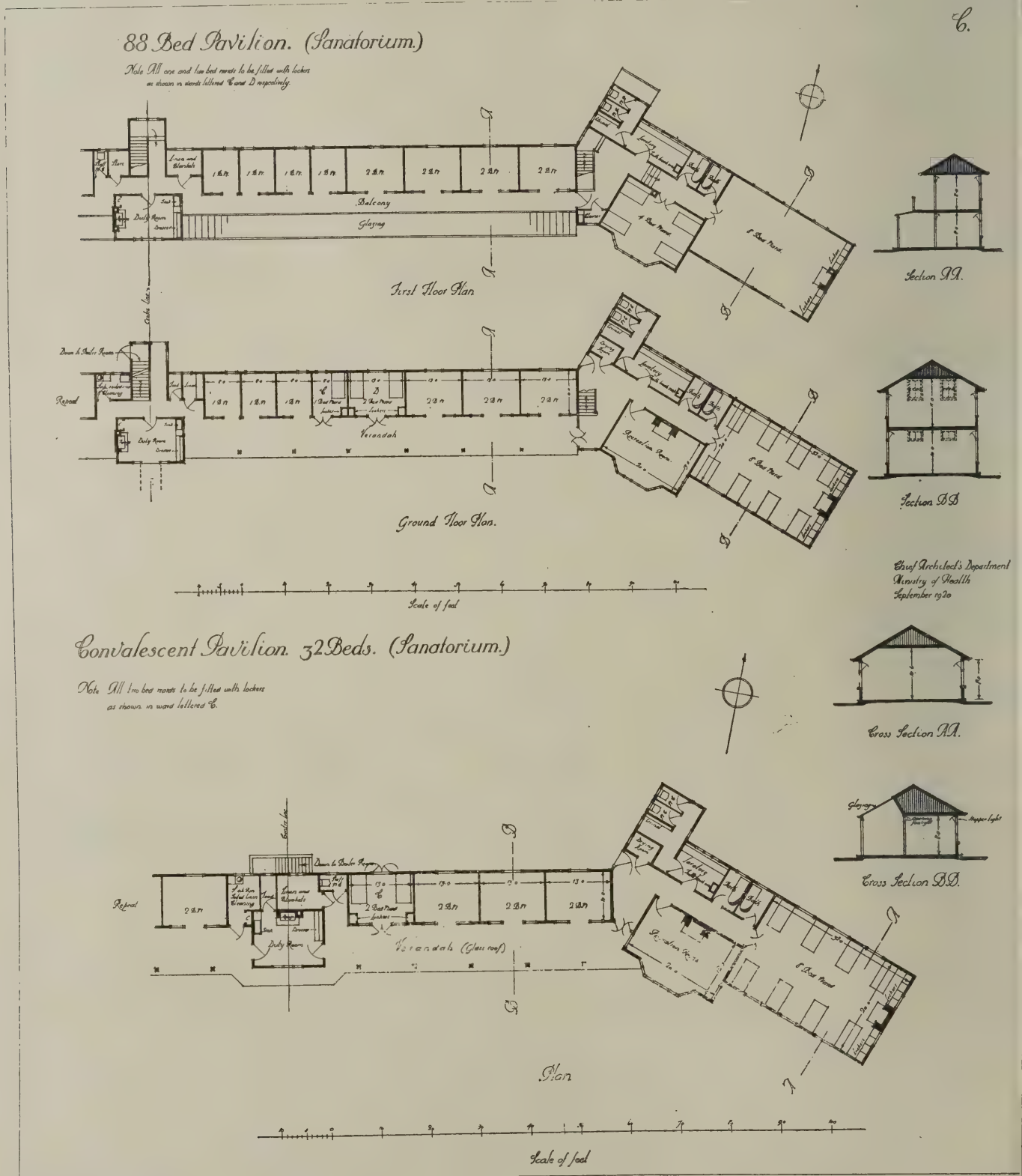
The meeting held on September 17 endorsing the election of Licentiates' representatives, and approving the action taken between May and September; the forming of the Association, and the enthusiastic support already given, make it abundantly clear that the Licentiate members of the Unification Committee do in fact truly represent the whole body of Licentiates, and the Executive Committee is now anxious to give them all the help in its power that they may well and truly serve on the Committee, and that their views may be received as the expression of opinion of a large body of experienced men and not only those of a few individuals.

Licentiates are invited to join the Association (subscription 5s.) and communicate with the Secretary.

J. E. YERBURY, Chairman,
S. G. SHORT, Hon. Sec.,
L. S. YOUNGMAN, Assist. Hon. Sec.,
Licentiates R.I.B.A.

Plans for Sanatoria

We publish in this issue some type pl issued by the Ministry of Health for sa torium buildings. Plans A and B merely typical of the arrangement buildings on the site. Plan C represe the kind of pavilion which might erected where local circumstances mad necessary to provide the whole of accommodation in one two-storey buildi Plan D shows a pavilion suitable classification of patients in sepa buildings according to their patholog requirements.



SANATORIA PAVILIONS SUGGESTED BY THE MINISTRY OF HEALTH. TYPES C AND D.

Air Views of Buildings. 8.—Cathays Park, Cardiff

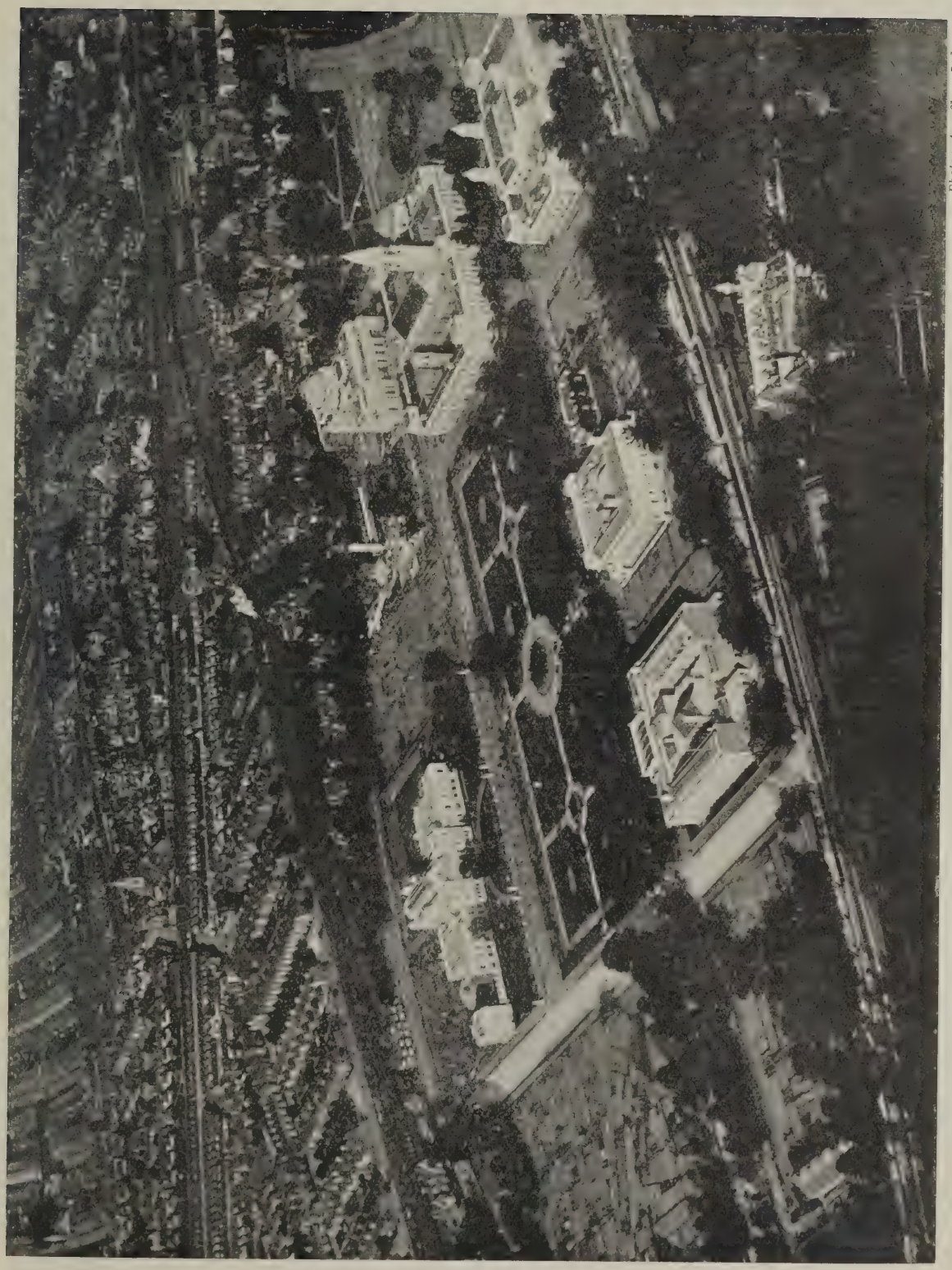


Photo: Aerofilms, Ltd.

The great scheme of monumental buildings in Cathays Park, Cardiff, is here seen from a new point of view. That modern architecture, no matter how fine in elevation, is less picturesque from the air than old work is plainly apparent. This is obviously due to the fact that modern roofs, through being strictly utilitarian in character, are generally unlovely.

UNIVERSITY OF ILLINOIS LIBRARY

DEC 6 1926

"All-Gas" Houses at Luton

A project of great interest to archi-ts is being carried out at Kimpton ad, Luton, where the Davis Gas Stove ., Ltd., are building eight concrete uses on the "all-gas" principle. Coal ates, coal flues, chimney breasts, etc., e entirely eliminated—except in the case the living room—and their places taken gas fires and 12 by 3 in. Nautilus con-te gas flue blocks built in the thickness the walls. The dwellings consist of blocks of four houses each, and the vis Gas Stove Co., Ltd., are carrying , with their own labour, the erection of houses, and are also responsible for manufacture of the materials, fittings, ., employed in the houses.

With the exception of the kitchen or ng room, which is fitted with a 9 in. 9 in. flue, constructed of concrete

THOD OF BUILDING IN "NAUTILUS" GAS FLUES.

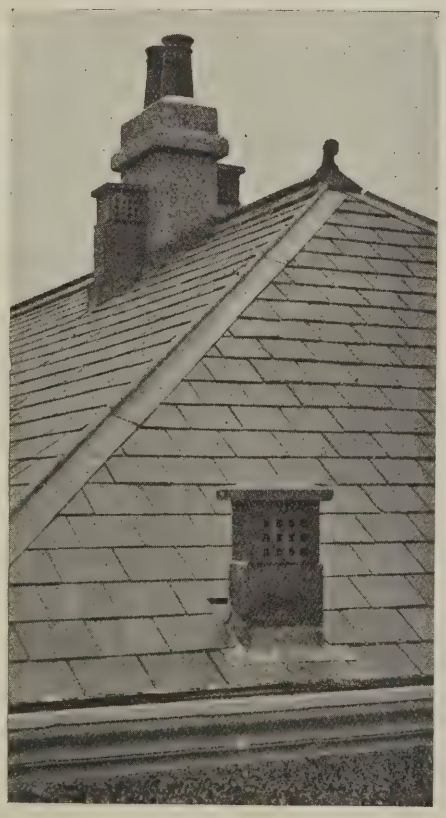
s in pairs, none of the rooms is pro-d with facilities for the use of solid The parlour, or occasional room, 's d with a Davis "N.H." gas interior in a simple, inexpensive, but effective tel and tile surround, and each of the ooms is equipped with a Davis H." gas mantel register, whilst the room is furnished with a Davis geyser the scullery with a Davis "N.H." n-house boiler, gas lighting being em-ed throughout.

e concrete blocks, of which the $3\frac{1}{2}$ in. ior walls, as well as the 9 in. (with cavity) exterior and party walls, built, are made on the site. The es are finished in Portland cement, h-cast, with concrete gutters and ment windows throughout, whilst, in interiors, all the walls are tastefully mpered, and, in the case of the ceil-plaster has been superseded by stos slabs. Structural saving has been

GAS FIRE WITH SIMPLE MANTEL AND TILE SURROUND.

effected by the use of the Nautilus concrete flues, by means of which projecting chimney breasts, large brick chimney stacks, etc., are eliminated; there has also been a saving in cost, and additional comfort is provided by the existence in the bedrooms of gas fires, the use of which naturally removes all the frigid discomfort attendant upon getting up and dressing on a winter morning.

The Davis Gas Co., Ltd., have recently secured a contract to construct thirty more such houses, which is at once a testimonial to the "all-gas" principle and to the methods and resources of the company.



GAS FLUE TERMINALS AND CHIMNEY STACKS.

Societies and Institutions

Institution of Civil Engineers.

There are over two hundred pages of valuable information relating to engineering and applied science in the October issue of the "Abstracts of Papers in Scientific Transactions and Periodicals," just published by the Institution of Civil Engineers. These abstracts, which indicate the nature and scope of the more important information published outside the United Kingdom, cover a large range, building and allied subjects forming a considerable part of the contents.

The Society of Architects.

Following are the officers and members of the Council for the year 1920-21:

President.—Sir Chas. T. Ruthen, O.B.E., Swansea.

Vice-Presidents.—Messrs. Edward J. Partridge, Richmond; Noel D. Sheffield, London; L. Sylvester Sullivan, London; and A. J. Taylor, Bath.

Honorary Secretary. — Mr. Thomas Wallis, London.

Honorary Treasurer.—Mr. George H. Paine, London.

Honorary Librarian.—Mr. Ellis Marsland, London.

Members of Council.—London: Messrs. George Baines, A. Burnett Brown, H. Freyberg, F. Hall-Jones, W. Hunt, W. G. Ingram, G. Blair Imrie, T. Stewart Inglis, D.S.O., H. C. H. Monson, C. F. Norman, E. J. Partridge, L. S. Sullivan, A. F. A. Trehearne, G. B. Tubbs, and G. H. Wenyon.

Members of Council.—Country: Major Harry Barnes, M.P., Newcastle; and Messrs. P. B. Houfton, Chesterfield; T. Taliesin Rees, Liverpool; C. F. Skipper, Cambridge; A. J. Taylor, Bath; and T. F. Tickner, Coventry.

Licentiate Members of Council.—Messrs. F. Juniper, London, and E. E. O. Lawrence, Southend.

Central School of Arts and Crafts.

A number of courses, lectures, and demonstrations of particular interest to architectural students have been arranged at the London County Council Central School of Arts and Crafts for the session 1920-21, the prospectus of which has just come to hand. Those studying for the examinations of the R.I.B.A., as well as craftsmen and students of other subjects in which a knowledge of architecture is essential, should find that the instruction in architecture and building crafts, under the supervision of Messrs. E. S. Andrews, B.Sc., S. B. K. Caulfield, F.R.I.B.A., B. Oliver, F.R.I.B.A., and F. H. Mansfield, Licentiate R.I.B.A., will meet their individual needs. Every form of decoration associated both internally and externally with building is provided for in the school of painted and sculptured architectural decoration, and a course is also provided dealing with the design and manufacture of stained glass. Other distinguishing features of the session are fifteen lectures on "Some Historical Aspects of Art," by Mr. Selwyn Image, M.A., late Slade Professor of Art in the University of Oxford; a lecture on "Chinese Art and Its Influence," by Mr. Laurence Binyon, assistant keeper of prints, British Museum; three lectures on "Making and Decorating Pottery," by Mr. Alfred H. Powell; and a course of twenty lectures, by various lecturers, including Messrs. G. K. Chesterton, S. B. K. Caulfield, F.R.I.B.A., and Professor W. R.

Lethaby, F.R.I.B.A., on "Art and the Community." Full particulars may be obtained on application to the principal, Mr. F. V. Burridge, R.E., L.C.C. Central School of Arts and Crafts, Southampton Row, W.C.

Weekly Housing Report

New housing schemes submitted to the Ministry during the week ended October 16, numbered forty-four, bringing the total number of schemes submitted to 11,159. The schemes approved now number 8,281, and comprise about 55,000 acres.

Forty-one lay-out schemes were submitted and approved during the week, bringing the total number of lay-outs submitted to 6,384 and the number approved to 5,709.

House plans representing 1,532 houses were submitted, and plans for 1,610 houses approved. The total number of houses represented in all the plans now submitted is 265,072, and in the plans approved 250,101.

During the week tenders were submitted for 3,372 houses. Tenders for 1,787 were approved, bringing the total number of houses in tenders submitted to 163,436, and in tenders approved to 148,158. Contracts have been signed for 112,928 houses.

Figures of employment on housing work, now available up to October 1, show only a slight improvement in the percentage of skilled workers employed. This has now risen to 63 per cent. of those required on schemes actually in progress, and takes no account of schemes in the earliest stages of development, which as they progress will make still further demands on the available supply of skilled tradesmen. The number actually employed on housing work was, at the end of September, 27,024, the number required being 43,113, showing a deficiency of 16,089.

The deficiency was made up as follows: 8,173 bricklayers, 3,915 carpenters, 845 slaters, 1,424 plasterers, 567 plumbers, 625 painters and glaziers. There was also a recorded shortage of 987 unskilled labourers.

Local Bonds and the Housing Grant

Housing Finance.

While difficulties arising from the lack of skilled labour show little sign of decreasing, local efforts to raise money for housing schemes continue to meet with remarkable success. Many of the big centres in Lancashire have achieved excellent results, notably Bolton, where £600,000 has been invested in local housing bonds. This sum represents £3 6s. 8d. per head of population. It is pointed out locally that this is in advance of the result achieved at Bradford, where £800,000, or £3 3s. per head of population, or at Newcastle, where £470,000, or £1 13s. 11d. per head, has been raised. At Newcastle one of the latest subscriptions to housing bonds is one of £10,000 from the North-Eastern Railway, subject to the condition that ten houses should be allotted to North-Eastern Railway employees living in overcrowded dwellings. At Burnley, during the month of September, a sum of £10,135 was invested in Housing Bonds, bringing the total now invest £109,080.

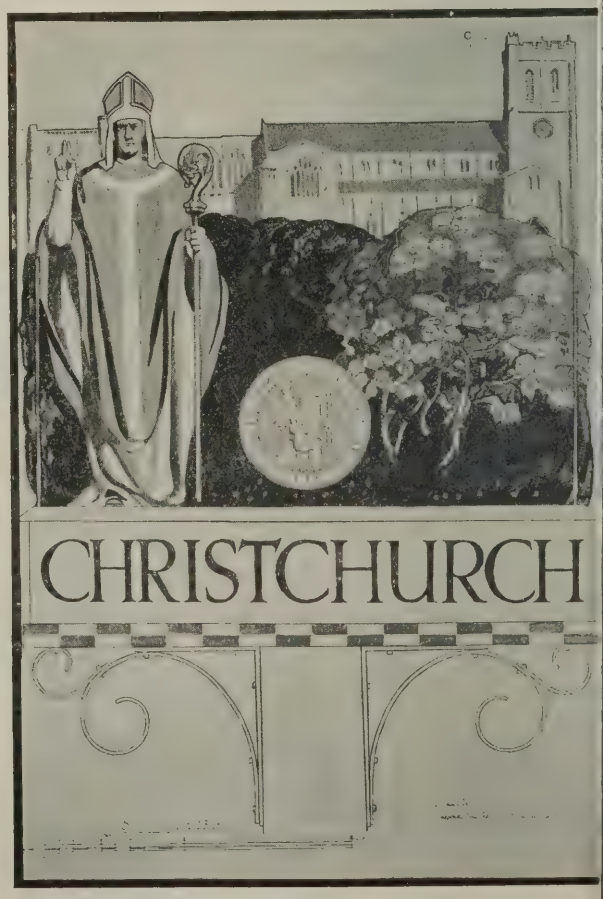
Housing Bonds at Bristol.

There is every evidence that the p generally are growing to regard Housing Bonds as an avenue for the s investment of small sums. At B where some pessimism was express the early results of the campaign, th has been gradually creeping up u stands at £305,000. A sum of £10, this total represents the allotme account of Messrs. Lysaghts fro quarter of a million set aside by M Guest, Keen, and Nettlefolds for i ment in the bonds of those localities their works are situated. Contracts been given out for 975 houses, abo hundred of which will shortly be occ

The Grant to Private Builder

The Government free grant to p builders of £230 to £250 has undou gone far towards reviving private prise in this country. Every week a considerable increase in the num houses planned and completed. I the week ended October 8 certificate issued approving the construction further 740 houses under the terms grant, bringing the total number ap to 21,736. Up to October 16 paym the grant had been made in resp 2,288 houses, and during the October 8 to October 16 221 pr built houses had been completed. gether the Government is committe payment of £5,254,471, of which £ has already been paid. Reports fr provinces show a growing interest terms of the grant.

3rd Prize (£200) Miss Dorothy Hutton.



4th Prize (£100) Eustace P. E. Nash.

"DAILY MAIL" VILLAGE SIGNS COMPETITION.

IMPORTANT TO ARCHITECTS

You can get ahead AT ONCE WITHOUT DELAY by adopting Reinforced Concrete on the Kahn System

Because we have a good stock just now of all sections of our reinforcements and a highly expert staff of designers

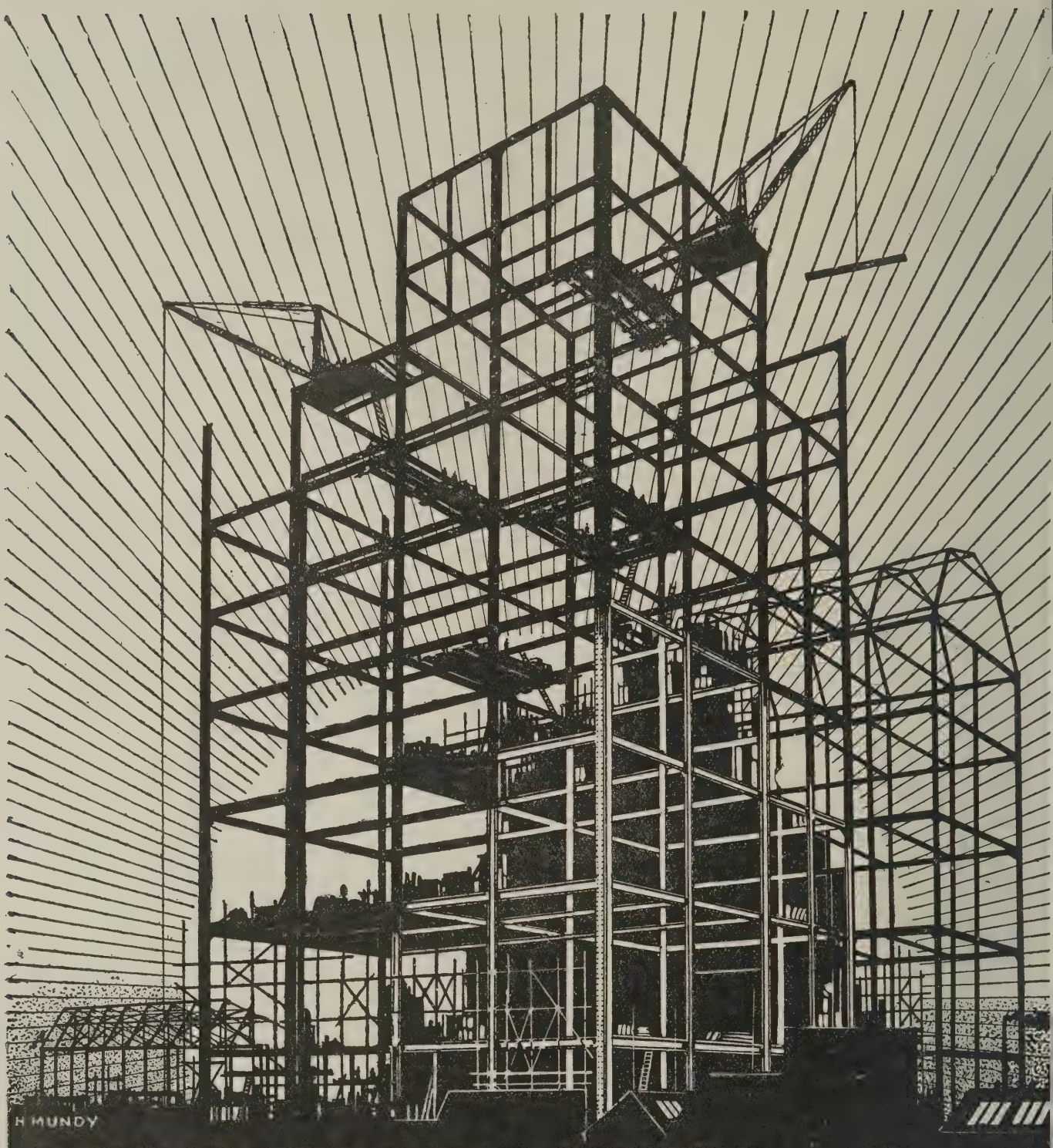
Therefore, write us to-day and we will explain what can be done with your building

The Kahn System of reinforcement is the most extensively used in the world :: ::

90% of modern multi-storey factories are being built to-day in Reinforced Concrete :: ::

THE
TRUSSED CONCRETE STEEL CO. LTD.
52 Truscon House, Cranley Gardens, South Kensington, S.W 7

Works: TRAFFORD PARK, MANCHESTER



REDPATH BROWN & Co. LT

CONSTRUCTIONAL ENGINEER

WORKS AND STOCKYARDS

LONDON
Riverside Works,
East Greenwich S.E.

MANCHESTER
Trafford Park.

BIRMINGHAM
Office 47, Temple Row.

EDINBURGH
St. Andrew Steel Works.

NEWCASTLE-ON-TYNE
Milburn House.

GLASGOW
Pinkston.
Office 19, Waterloo S

London City Office:- 3, LAURENCE POUNTNEY HILL E.C.4

The Week's News

(Concluded from page 451).

More Houses for Adwick.

he U.D.C. have decided to build thirty-more houses at Woodlands.

Boston Housing.

oston R.D.C. have decided to borrow 500 for housing purposes.

Housing at Thames Ditton.

he Ministry of Health have sanced a loan of £50,000 for housing.

Beeston Housing.

ork has commenced on the first pair ouses of the fifty-eight to be erected er the housing scheme.

Sidmouth Housing.

dmouth U.D.C. are about to erect -six dwelling-houses on the Great als site.

Public Baths for Bridgnorth.

idgnorth T.C. have resolved that the ision of public baths is an urgent ssity, and a sub-committee has been inted to submit a scheme.

London Housing Scheme.

connection with its housing scheme, Corporation of London is purchasing additional blocks of buildings in the Kent Road at a cost of £65,000.

Exmouth Building Scheme.

was mentioned at the recent inquiry xmouth that a scheme for building semi-detached villas was likely to lop in one of the suburbs of the town shortly.

Thomas Malton's Portrait.

ith regard to the portrait of Thomas on, published in our issue for Octo-3, it should have been stated that eproduction was made from an old courteously supplied by Messrs. bridge, Printsellers, of Dublin.

Cromford's First New Houses.

ilding has started on the Cromford ng scheme of eight houses. It is d that with the exception of one house ed about twenty years ago no new ings have been built in Cromford for half a century.

Homes in Hop Kiln.

e U.D.C. have decided to convert a hop kiln in Aldershot Park into ges. The cottages will consist of rooms, each room getting smaller as airs are ascended, owing to the cone-d roof.

Stourbridge Housing Scheme.

urbridge T.C. have decided to erect e Grange estate 177 municipal houses total cost of (including the making w roads and sewers) £155,675, by labour.

West London Housing Schemes.

London County Council Housing ittee report that the number of s completed under the Council's ng scheme is 165, of which 126 are e Old Oak Estate at Hammersmith 9 on the Norbury Estate.

Selby Town Planning Scheme.

Ministry of Health have held quiry at Selby, respecting the Council's town planning scheme, embraces an area of 7,400 acres. heme is to regulate building in the nd extending portions of Selby, and his object in view it includes por-of the rural parishes of Wistow, on, Barlow, and Thorpe Willough-It was stated that in dealing he new portions, the Council wanted to prevent the possibility of crowded areas on the outside of the urban district. It was also proposed to fix the industrial and the residential areas. There was no opposition.

Unfit Houses at Mansfield.

At Mansfield there are 710 houses in the borough unfit for human habitation, eighty below a reasonable standard, the conditions of which render them unsuitable for improvement, 171 which might be improved, and sixty-two at present unfit, but might be made fit by structural alterations and improvements.

Sheffield Building Trades Federation.

The Sheffield and Rotherham branch of the Building Trades Federation have elected the following officers for the ensuing year: President, Mr. H. A. Stone; secretary, Mr. J. H. Blincow; emergency committee, Messrs. H. Hodge, T. H. Marshall, T. O'Brien, J. Whyman, and F. Sprakes.

Plymouth Housing Appointment.

Mr. R. B. Barker, A.R.I.B.A., chief architect's assistant in connection with the housing scheme at Wolverhampton, has been appointed by the Plymouth Housing Committee as assistant to the borough surveyor in the local scheme. In the schemes at Wolverhampton there are at present sixteen contracts running, while eighty houses have been completed.

Guild Houses for Alderley Edge.

Alderley Edge T.C. have received a letter from the Ministry of Health approving of the Council's decision to accept the Building Guild tender to carry out the housing scheme. Twenty-six houses are to cost £995 per house, whilst larger dwellings will be built for £957 plus 6 per cent. and £40, or £1,055 per house. The Council are borrowing £30,000. The Guild has offered to start work at once.

Torquay and the Building Subsidy.

The T.C. have agreed that the following resolution, as contained, from the Town Clerk of Eastbourne, be supported: "That the Council make a strong protest against the granting of subsidies to builders other than those who are building houses for the working classes, and refuse to issue certificates to any other persons," and that a copy of the resolution be forwarded to the Ministry of Health and the Chancellor of the Exchequer.

Scottish Builders and Housing.

The Scottish National Building Trades Federation have issued a statement expressing resentment at the attempts to saddle the building trade with blame for the slow progress of housing and high costs. They blame the authorities for unpreparedness, and point out that recently the Cabinet took "a hand in the game," and for a time things looked more hopeful, but, unfortunately, the Cabinet considered they knew the building trade better than the builders. With regard to the Cabinet's desire for unlimited dilution, the Federation say that the trade has taken both disabled and fit ex-Service men, but no trade which carried on its industry largely by skilled manual labour could suddenly flood its ranks with unskilled men.

Armstrong College Engineering Society.

The students of Armstrong College Engineering Society have paid a visit to the new quay now being constructed at Gateshead for the Gateshead Corporation. The structure is built in reinforced concrete, and consists of front piles 16 in. square, encased in reinforced concrete cylinders braced to back piles and surmounted by a platform. The structure is built so as to permit of considerable dredging, as required by the River Tyne Commissioners. It was originally proposed to construct at a high level large storage hoppers from which the town refuse would be deposited and quickly discharged into barges to be taken out to sea. The hoppers would be approached by an elevated bridge leading from High Level Road. This portion of the work is deferred for the present. The scheme was fully explained to the students by the engineer, Mr. D. Balfour, M.Inst.C.E., and the contractors, Messrs. Brims and Co.

Housing at Dumbarton.

At Silverton the Dumbarton Building Society are erecting twenty-seven houses on the terraced cottage principle, from the designs of Mr. William Reid, architect, Clydebank. Like a Canadian bungalow, the house proper is really of timber, supported on a basement of concrete blocks. The wooden super-structure is protected by a special kind of felt, and super-imposed on a ground of wood-strips is close mesh wire, the surface of which is rough-cast, giving the finished house the appearance of a brick building rough-casted. Two similar houses have just been completed at Clydebank, and make a beginning for the burgh's twenty-five-acre scheme. Besides the basement, 31 ft. by 31 ft. by 7 ft., there are two bedrooms, a living room, a kitchen, a scullery, and a larder, with a height of 9 ft. 6 in. to the ceilings. The bedrooms are 12 ft. by 12 ft., and the living room 12 ft. by 18 ft. A central heating apparatus is placed in the basement, supplying hot water, as well as warm air, through pipes to all the rooms, a stop-cock being provided so that a regular temperature can be maintained. A fireplace is provided in the living room.

Coming Events

WEDNESDAY, NOVEMBER 3.

Glasgow Institute of Architects, 39, Elmbank Crescent, Glasgow. "The Preservation of Ancient Monuments." By Mr. J. Wilson Paterson, M.B.E., A.R.I.B.A., F.S.A. (Scot.). 8 p.m.

FRIDAY, NOVEMBER 5.

Royal Technical College Architectural Craftsmen's Society, Glasgow.—"Trees and Timber," by Mr. John L. Burnett, 7.30 p.m.

Birmingham Architectural Association. —Annual meeting and presidential address (dinner and concert).

South Wales Institute of Architects: Western Branch.—"Domestic Architecture of the Eighteenth Century," by Mr. J. Alfred Gotch, F.R.I.B.A., F.S.A. 7.30 p.m.

Competitions

Gateshead War Memorial Competition.

The R.I.B.A. Competitions Committee call the attention of Members and Licentiates to the fact that the conditions of this competition are unsatisfactory. The Competitions Committee are in negotiation with the promoters in the hope of securing an amendment. In the meantime Members and Licentiates are advised to take no part in the competition. A similar communication has been issued by the Society of Architects.

(For List of Competitions Open see last issue.)

Trade and Craft

Electrical Fittings and Accessories.

A new Industrial and Street Lighting Fittings and Accessories Catalogue (Section F 1) has been issued by the General Electric Co., Ltd., replete with technical illuminating engineering data, illustrations, full particulars, and prices of fittings and accessories for industrial and street lighting. In the first (industrial lighting) section are found fittings particularly suitable for the lighting of workshops, stores, shops, and offices, together with complete technical data and instructions regarding their installation and use. The fittings include extensive, intensive, and angle type steel reflectors for local lighting, semi-indirect ceiling fittings for both high and low ceilings (very many of these have been supplied and are claimed to have given excellent results with Osram gas-filled lamps), indirect fittings, handlamps, well glass, and bulkhead fittings, etc. In the second (street lighting) section are found a large number of lanterns for street lighting, with Osram gas-filled lamps, together with artistic standards, time switches, and accessories. Of these lanterns the "City" and "Metropolitan" are deserving of special mention. They are specially suitable for the lighting of main thoroughfares, and both have been widely used for public lighting. Full specifications are given in the catalogue. Several of the lanterns are particularly suitable for the illumination of yards, sidings, railway stations, docks, etc., and for the illumination of large buildings, such as hotels, theatres, cinemas, offices, etc. We are informed that anything in the nature of information on lighting problems, schemes, and suggestions for any purpose will gladly be worked out by the G.E.C. Illuminating Engineering Department for the assistance of engineers, contractors, factory owners, and others with a direct interest in lighting schemes. The head offices of the company are at 67, Queen Victoria Street, London, E.C.4.

Sprake's Kitchen and Scullery Cabinet.

The accompanying illustration shows Sprake's kitchen and scullery cabinet, which, besides being an attractive piece of furniture, should prove a great boon where space, labour, and cost are a consideration. These ingenious cabinets are specially adaptable for fixing in a living room, and when used in this manner make the kitchen and scullery quite superfluous. The cabinets, which are of two types, have within them a number of receptacles and articles such as are needed in a scullery, which are concealed from view when not in use.

One type of cabinet contains towel rail, shelves, sink, draining board, plate racks, gas stove, cylinder, hot and cold water, etc. The upper portion forms an airing cupboard, with panelled doors opening outward, and the under portion has a cupboard for utensils. It is constructed with a flue, which takes away all fumes and steam from the gas stove, and is water-tight around stove, so that any spill of water is prevented from getting outside the cabinet. The upper portion and around the stove is lined with asbestos sheets, the centre portion being fitted with enamelled plates or marble slabs, and when closed has the appearance of a piece of furniture. the cylinder is heated by gas (or can be connected to any grate having high-pressure boiler), and supplies hot water over the sink. It will also supply the bathroom. The capacity of the cylinder is about twenty gallons. The standard sizes are 8 ft. and 9 ft. by 4 ft. by 2 ft. 6 in., but the cabinet can be made to any size required.

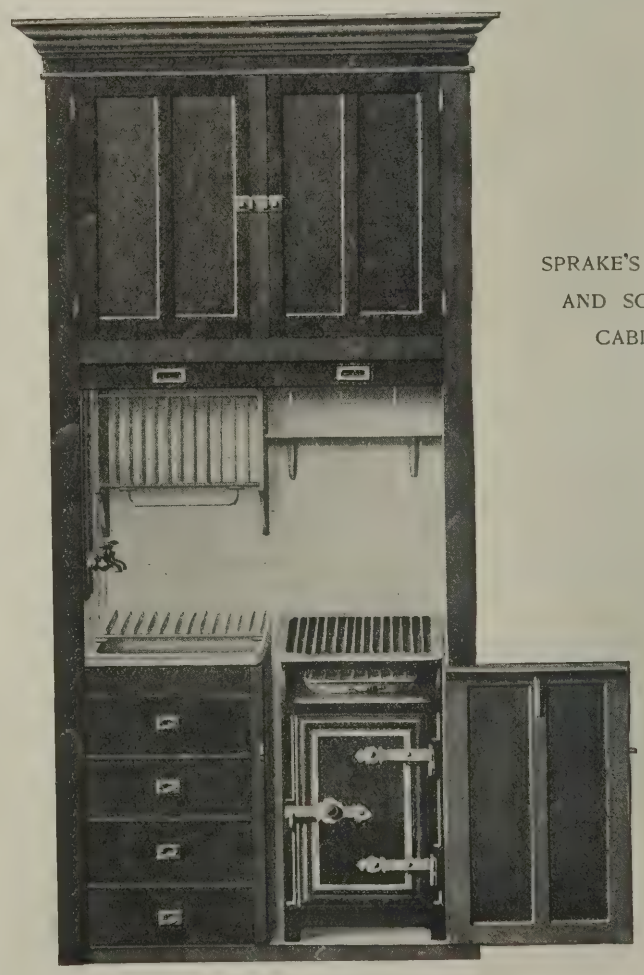
The other type of cabinet is supplied with cold water only. The bottom portion is the same as in the former type, but in place of the cylinder and airing cupboard is fitted with shelves for utensils. It is also fitted with flues. The door of the cabinet opens outward; each cabinet is stained and varnished, but can be finished to suit any room. The standard size is 7 ft. by 4 ft. by 2 ft. 6 in. Each cabinet is complete in itself, i.e., fitted with all pipes, traps, taps, etc., and has only to be connected from the outside.

The conveniences of these cabinets, which were awarded a gold medal at the Bristol Home Life Exhibition, 1919, and which are approved by the Ministry of Health, are such that they can be used with particular advantage in hotels, flats, model dwellings, etc.

Sprake's hygienic larder or pantry cabinet should also supply a long-felt want. Although well-ventilated, it is claimed to be insect, vermin, and dust-proof, thus keeping food clean and wholesome. It is constructed with hollow walls, and ventilated so that cold air is continually passing through the cavity, which prevents the inner casing being affected by the atmosphere of the room, thus keeping it perfectly cool. The whole of the interior is lined with metal. The cabinet can be placed anywhere with satisfactory results, requires no special fixing, and can be moved at will. The agents fo Sprake's patent cabinets are the Re port Co., Ltd., of 202, Bath S Glasgow, who also supply the "Some sideboard dresser, and Sprake's larde

"Sankey". Down Draught Preve Pot.

"Down Draught Defeated" is th of an interesting booklet issued by M J. H. Sankey and Son, Ltd., of Wharf, Canning Town, London, It plain the causes of down draught a set forth the advantages secured b adaptation in the Sankey pot of the seen in church belfries and louvres. The wind striking upon louvres in Sankey's pot is directe ward, and passes out of the opening top of the chimney. The force of th going blast not only serves to p other blasts from entering vertica the top, but it also creates a vacuum in the chimney itself which cises a powerful suction upon the s drawing it upwards, whereas witho device it would be pushed downward occasionally blasts of wind descend cally into the opening. Here the l of Sankey's pot come again into tion. The wind, striking upon th forced out at the side openings, i case also creating a partial vacuum chimney and giving the suction nec for drawing out the smoke. In ext bad cases, as when houses stand i hollows or amongst high trees, the fitted with its special cap, which stops this form of down draught, giving full play to the louvre princi



SPRAKE'S KITCH AND SCULLER CABINET.

EXPANDED METAL

STOCKTON STREET CINEMA, WEST HARTLEPOOL.
Reinforced Concrete Throughout.
Architect. Mr. J. Forbes, L.R.I.B.A. Middlesbrough.

THE

EXPANDED METAL COMPANY, LIMITED

Head Office:

YORK MANSION, York Street, WESTMINSTER, London, S.W.1

(To which address enquiries should be sent.)

Works:

STRANTON WORKS, WEST HARTLEPOOL.

(To which address orders should be sent.)

SPECIALITIES.

- Expanded Steel Sheet Reinforcement for Concrete.
- "Exmet" Reinforcement for Brickwork.
- Expanded Metal Lathings for Plasterwork.
- Steel Wall-ties with split ends.

POSTAL & TELEGRAPH DEPT., BORDESLEY GREEN,
for H.M. Office of Works.
Saw Tooth Roofing of Pre-Cast Expanded-Steel Concrete Slabs.

HASWELL CO-OPERATIVE SOCIETY, WHEATLEY HILL, CO. DURHAM.
Reinforced Concrete Throughout; Front faced with Artificial Stone.
Architect Mr. J. Wilson Hays, Wingate, Durham.

Patentees & Manufacturers of EXPANDED METAL.

Engineers for
FIRE-RESISTING CONSTRUCTION,
STRUCTURAL STEELWORK,
And all forms of
REINFORCED CONCRETE WORK.

Write for
DESIGNS, ESTIMATES,
SAMPLES, PRICES, ETC.

CONTENTS.

Edited by PROFESSOR A. E. RICHARDSON, F.R.I.B.A.

Notes and Comments: Civic Survey Diagrams; The Hop Exchange Fire; Mr. Fisher on Architecture, 477. Architectural Competitions; London University; ex-Service Men as House Builders; Spoils Out of Egypt; An Exhibition of Walcot Etchings 478

New Hospital for Cairo: World Competition. Interview with Mr. John W. Simpson 479

Architectural Causerie: More Italian Villas. By Aero 481

Zeppelin War Shed Construction. By H. F. Murrell, A.R.I.B.A. ... 485

Compulsory Dilution and the Operatives 486

Exhibition of Civic Survey Diagrams 486

A City Façade 486

The Architect, the Engineer, and Registration. By J. C. Dewhurst, A.R.I.B.A. 489

Plans for Sanatoria 490

Correspondence 495

Enquiries Answered 496

Modernising a Liverpool House ... 496

Modern Irish Church Building and Furnishing. By R. M. Butler, M.R.I.A., F.R.I.B.A 499

The Master Glass-Painters Society... 499

Architects and Competitions... ... 500

Competitions Open 500

Coming Events 500

Book Notice 500

The Week's News 501

Liverpool University School of Architecture 502

Trade and Craft 502

Current Prices of Materials... ... xix

Complete List of Contracts Open xx, xxiv

ILLUSTRATIONS:

Grinling Gibbons... 475

Early Nineteenth-Century Architecture. 10.—The Royal Victualling Yard, Stonehouse, Plymouth: Main Gate. Sir John Rennie, Architect ... 476

Ballemena Town Hall Competition. First Premiated Design. A. E. Jones and S. S. Kelly, Architects ... 479, 480

Casino at the Villa Borghese, Rome 481

At the Villa Loudovico, Rome... 482

In the Garden of the Farnese, Rome 482

Air Views of Buildings. 9.—St. Peter's, Rome 483

Zeppelin War Shed Construction (diagrams) ... 485, 486

Current Architecture. 47.—Ex tension of No. 85, Grace church Street, London, E.C L. Sylvester Sullivan A.R.I.B.A., Architects

Mr. J. C. Dewhurs A.R.I.B.A., President of th Architectural Association o Ireland ... ...

Dining Hall and Kitchen for Sanatorium ... ...

Sanatorium Pavilion Suggeste by the Ministry of Health

Architects' Working Drawing 21.—Façade to Extension o No. 85, Gracechurch Stree London. L. Sylvester Su livan, A.R.I.B.A., Architect 4

Pathological and A.M.O. Quarters for a Sanatorium

Nurses' Home in Model San torium ... ...

Alterations to House at Live pool ... ...

Modern Domestic Architectur 21.—The Hall (as altered) "Eastbourne," Princes Par Liverpool. Ronald P. Jone M.A., Architect ... ...

Standard Type of "Electr Vapour" Radiator; Side Vie of Combined Hot Water ar Electric Radiator ...

SPEEDING-UP.

SPEEDING-UP is attaining the end desired in the shortest possible time. If you need material and service in any constructional work—then an enquiry to us, letter, 'phone or wire, is the first step to speedy satisfaction of your needs. We have seen to it that this promise can be fulfilled.

Stocks of
British Standard Sections in Joists, Channels, Angles, Tees, Flats, etc.

DAWNAY DEFINITIONS—2.

ARCHIBALD D. DAWNAY &

Telephones: Battersea, 1094. (3 lines).

Steelworks Road, Battersea, S.W.11

Telegra "Dawnay, Ba Londo

Telephone: Cardiff, 2557

And at East Moors, Cardiff.

Telegra "Dawnay,

Wednesday, November 3, 1920

Volume LII. No. 1348

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

GRINLING GIBBONS.

Grinling Gibbons, the most brilliantly accomplished craftsman of the English Renaissance, was born at Rotterdam in 1648, and lived for something over 70 years, his death occurring in 1721. He was concerned in the decoration of the principal palaces and private houses which were erected or altered during his life, and met some of the most famous men who flourished from the time of Charles II. to that of George I. Wren asserted that he was apprenticed to a joiner in St. Paul's Churchyard, but of his early years little is known. He has been credited with an immense amount of work—more, indeed, than one man could possibly have accomplished. His finest carving is in St. Paul's.

27-29 Tothill Street, Westminster, S.W.1.

Early Nineteenth-Century Architecture. 10.—The Royal Victualling Yard, Stonehouse, Plymouth: Main Gate

Sir John Rennie, Architect

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.
ednesday, November 3, 1920 Volume LII. No. 1348

Notes and Comments

Civic Survey Diagrams

THE great towns are bestirring themselves in the matter of town-planning—on paper. Sheffield is holding a town-planning exhibition, which is of unusual interest—*per se*, d for its antecedents. Sheffield claims to be the st to conduct its own civic survey, and it made the ry excellent choice of Professor Patrick Abercrombie conduct it. By no means the least interesting of the ıgrams exhibited is one in which the growth of the city shown to have followed at first the development of the ans of communication, such as the organisation of the ge-coach service, and afterwards how clearly it dended on the discovery of silver plate and crucible steel, w the curve of prosperity rose and fell in Sheffield in ıction to the trade rivalry of Birmingham, and how the covery of the Bessemer process has stabilised the instry and promoted the steady physical expansion of effield. Other maps or diagrams show in a very intering way how an industrial town shapes itself when development is what one may call unpremeditated, not "in accordance with plan." The resultant ıupings are often examples of how not to do it, but t is by no means their only value. Primitive designs d the term must certainly be taken to include townnning) of any kind, and however crude, frequently re in them some element of strength, or even of ıuty, that may prove suggestive for treatment on more dern or more scientific lines. There are diagrams that ve to show, too, whether statedly or inferentially, how l when and where and why slum areas come into exnce, and, by deduction, how they can be prevented. ere should be more of these exhibitions of townelopment diagrams, information conveyed graphically ng more surely assimilated in that than in any other n. London opened its civic survey exhibition (yester, November 2) at the R.I.B.A. Galleries, and it is med that here, as at Sheffield, the diagrams render ıprehensible at a glance the material and sociological ditions governing the area to be planned. In this ter of showing plainly how a town was, is, and ought e, Sheffield should have many rivals. Municipalities uld take up the subject as part of their educational cy, and arrange to give lantern lectures on it.

The Hop Exchange Fire

he great fire that destroyed the London Hop hange confirms the case against railways remainabove ground in thronged cities. In the early days n the South-Eastern Railway was built there was lternative to the dangerous practice of carrying the through serried ranks of tall buildings, but the excuse for continuing the vicious system is the e expense of applying the remedy. Of the many nveniences that arise from it the fire at the Hop hange furnishes an extraordinary example. Its is only a few yards distant from a short section of line between London Bridge and Charing Cross, and when the interior of the Exchange had been burnt away a huge wall was left tottering in the last stage of infirmity. At any moment it might have toppled over on to the line. For more than a week, therefore, the use of the line was enormously restricted. Charing Cross station had for a time to refuse bookings, and the effect was felt more or less seriously all along the line. Supposing a similar fire had occurred during war-time, the dislocation of the system, on the line which was depended upon to carry hourly thousands of our troops to the theatre of war, and to bring back, alas! almost incessantly, long trainloads of the wounded, would have been disastrous beyond exaggeration. As it is, only a few hundreds of thousands of business men have, during many days, suffered more or less grievous loss and annoyance, but the constant risk of further and incalculable calamity is too great to be tolerated. At its outlying suburban stations the South-Eastern must either dive underground or be superseded by a Tube—a consummation to be as devoutly wished for the sake of amenity as for safety and convenience.

Mr. Fisher on Architecture

The Minister of Education has always envied the architect. Compliment for compliment, the architect must often have envied the Minister of Education—for his position, his aplomb, his opportunities for building up a noble system of education. Mr. Fisher made this coy confession when, on October 22, he formally opened a new studio at the Liverpool University School of Architecture. Mr. Fisher's exquisite reasons for admiring the blessed state of the architect were very flattering. The architect, he said, combines many different qualities, being an artist and a man of business; he must know some science, and it were well if he could enter, as a statesman does "with sympathy into the various practical needs to which it is his duty from time to time to minister." Mr. Fisher declared that he "did not know any other profession in which such a pleasant balance of opposite qualities was imperiously demanded." On these points no architect will be over-eager to dilute Mr. Fisher's flattering ideal. It will strengthen their hands in keeping up the standard of professional training and in scaring away the unfit. But in sober truth, Mr. Fisher gave us the image of an all-round development that would be more useful to a schoolmaster than to an architect. The "pleasant balance of opposite qualities" is, among architects, seldom found under one hat. An architect equally qualified in art and business, and adding to a smattering of science a dash of statesmanship, would be careful to conceal his versatility, lest the vulgar should think him "jack of all trades and master of none," or lest his brother practitioners should in jealousy allege of him that "omniscience is his foible." But, as an expert in pedagogy, Mr. Fisher knows very well that a valuable part of the education is its ability to discover budding aptitudes; and one of the most vitally

important functions of the architectural school is to develop the latent talent and direct it to fruitful issues, showing incidentally which tracts of the field would be tilled to least profit, and which of them would best repay intensive cultivation. In other words, the school applies the maxim of the ancient Greek sage, "Know thyself"—helps him to determine whether he is more fitted for the art or for the science of architecture, or whether, like one of the brothers Adam, he will be more at home as a business member of a firm. In the profession there is room for all three types, and the partnership that comprises them all has a fair chance of prosperity. One clause in Mr. Fisher's formidable schedule he seemed to insert "provisionally" and with hesitation; but surely it is—and we have always laid stress on the point—of first-class importance that the architect, like the Minister, should keep closely in touch with the needs that it is his duty to meet. He, therefore, who would be a good architect must first become a good citizen, and while he should certainly have a well-balanced mind, it might be well for either the art or the science of his profession if he also have a bent; "study what you most affect" being also an item in the wisdom of the ancients, although it was as great a modern as Shakespeare who shaped it to that terse form.

Architectural Competitions

In the memorandum on the subject of architectural competitions that has been drawn up by the Royal Institute, for circulation throughout the country, there occurs this charmingly sententious passage: "It is assumed that the motive prompting bodies who promote such competitions is that they are desirous of getting the best design possible for their project." Nothing could be safer than this assumption. The Safety First League could not better the instruction. Excellent general advice is given in the circular, however, which should remove many prevalent misconceptions; as, for example, that a corporation sets a competition afoot simply as a concession to the national love of contest, and to give the corporation fathers, who have a dull time of it in session, a joyous opportunity of making bets on the result.

London University

Whilst the site question was under discussion, Sir E. Ray Lankester contributed a letter that must have had considerable influence on the decision of the Senate to accept the Government offer. It is gratifying to us to find that he takes the view of the situation that we have held throughout the discussion. He thinks it of vital importance that the public and the graduates of the university should be informed with clearness and sufficient detail what part or parts of the functions of a university are to be served by the new buildings. He holds that while the university "should have a dignified building on such a central site as that of Bloomsbury, to contain a great hall of assembly, committee-rooms for administrative purposes, and one or two lecture-theatres of moderate size for occasional use," yet it is not desirable to associate with these any libraries, museums, or class-rooms. These should be placed in comparatively remote yet readily accessible situations where light and air are good. "They are at present," he observes, "scattered in various institutions in London, and, though forming parts of the university, are not, and should not be, squeezed together in one small central smoky site." We are happy in the fulness with which we anticipated Sir E. Ray Lankester's views. Further authoritative expression is desirable. To state them clearly, tersely, and forcibly will greatly promote the ingathering of the necessary funds, which should be subscribed with no niggardly hand if we are to get the Olympian building that shall be properly representative of the subject and the metropolis.

Ex-Service Men as House-Build

Government seem bent on starting house-buil schemes on which ex-Service men will be ma employed. If these schemes could be carried out q independently of the trade unions, there would be likelihood of friction with those august bodies than se to dog the attempt to coax them into co-operation. paragraph in the semi-official announcement, howe suggests a tireless endeavour to conciliate the uni who, whether they will bear or whether they will forb have at least had the door left ajar for them. "In ning these schemes," the statement runs, "the Gov ment are very far from wishing to irritate trade-union for it is recognised that where the new men, who ar be classed as 'adult apprentices,' are employed, success of the experiment can only be secured the co-operation of the union men, who will h to instruct the recruits." We trust that Government is not too sanguine about this. To a few unionists to instruct a large number of a apprentices will not be easy. It is, in fact, a flag breach of one of the most fanatically worshipped trade-union fetishes. A special conference of federated operatives, held at Manchester, makes absc refusal quite certain. But to endeavour once agai include unionists in the scheme is to put on them, rig enough, the onus of refusing to help either the hou movement or the men who, having fought for our f dom, are now out of work by the hundred thousand. after this, the unionists refuse to "bear a hand," Government will be justified in going ahead wit them.

Spoils out of Egypt

There has just died, near Manchester, a gentle to whom indirectly architects are greatly indebted. Jesse Howarth was an enthusiastic amateur of Eg ology, and he supported very generously many impo explorations—notably some of those exceedingly pr excavations conducted by Professor Flinders Pe Collections which Mr. Howarth had made during the thirty years or more having increased beyond capacity of a private house, Mr. Howarth gave ten t sand pounds for the erection at the Manchester Mus of a special block of buildings to accommodate t Very recently, when an appeal for funds was mad Manchester University, of which the Museum is a Mr. Howarth contributed a further ten thousand pou and, thanks to his enthusiasm, local patriotism, munificence, Manchester is not very much less rich London and Oxford in Egyptian antiquities. Howarth, who was a member of a firm of yarn merch and had reached the age of eighty-five, was also a li supporter of the British School of Archæology in E and the Egypt Exploration Fund.

An Exhibition of Walcot Etchin

As our readers are aware, the service we aim at re ing the Architectural Profession goes far beyond publication of books and periodicals. In pursuan that higher service, we have arranged a small art ga in the Reading Room and Library at 27-29, T Street, Westminster. The exhibition consists selection of Mr. William Walcot's etchings. In the r the etchings shown are vivid reconstructions of R scenes, although a few that are Greek, and one th of Babylon, are included. All alike are remarkabl their very rare blend of scholarship, imagination, technical accomplishment. The room in which exhibition is being held is open every week-day 10 a.m. to 5 p.m., except Saturdays, when the hour ten o'clock to twelve. To this exhibition of some o finest etchings of the present day all architects are dially welcome free of charge.

New Hospital for Cairo: World Competition

Interview with Mr. John W. Simpson

WE are able to announce this week a big competition, to be thrown open to architects the world over, for the design of what will be the world's largest hospital, ich is to be erected by the Egyptian Government at cost exceeding £1,000,000. The old Qasr-el-Aini spital is to be superseded by a new one in which ovision will be made for about 1,250 beds. There l also be formed, in connection with the hospital, an portant medical school (which will give specialention to the study of tropical diseases), a dental hool, and clinic. The medical school will be comsed of 600 students; the dental students will number 0, with about sixty pharmacy students. There will o be built a large students' club and hostel, and a rses' training school.

Some idea of the undertaking may be formed when is stated that the site contains about fifty acres, ile King's College Hospital at Denmark Hill covers y twelve and a-half acres. Even so, the Egyptian vernment have been strongly advised to acquire still re ground, and they have agreed to do so.

The Egyptian Government's adviser in the matter been Mr. John W. Simpson, President of the .B.A., who has just returned from a three weeks' y in Cairo. Interviewed by a representative of E ARCHITECTS' JOURNAL, he said that the hospital uld meet all European requirements, and the site on oda Island, on the Nile, was probably the finest in ro, it being open to the cool north and north-west ds which for the most part prevail.

An International Competition

t has been decided to hold an international preliminc competition for the design of the hospital. Archits the world over are to be invited to compete, and of these six will be selected for the final npetition. The Government will nominate six other nitects of repute in hospital practice, so as to make ll twelve final competitors, each of which will be ured of a fee of 500 guineas.

The Government have agreed to accept the B.A.'s scale of fees, to be paid in addition to the guineas honorarium. Moreover, the architect placed second will receive an additional 500 guineas—in all, 1,000 guineas.

Mr. Simpson pointed out that the competition is one which will require a special study, owing to the difference of Egyptian from European diseases and local conditions. One important factor in the designing will be the complete separation of the sexes, to comply with the very strict Mohammedan law.

The task will be simplified, however, in one respect —the foundations will be undertaken by the Ministry of Public Works—so that the architect will have to work only from the ground floor. But this will in no way affect his fees upon the whole contract.

Mr. Simpson will return to Cairo on two further occasions in connection with the scheme. He then hopes to have some time to spare for sight-seeing. During his recent visit he was hard at work for fourteen hours a day and had no opportunity to go outside Cairo. An incidental service was rendered by him to all architects in that during his stay he established in Egypt the R.I.B.A. regulations for all competitions.

Books on Hospitals

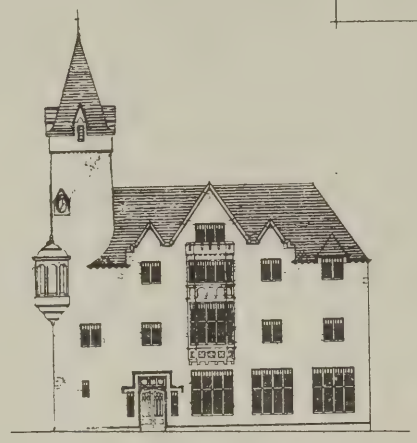
Were it not that we wish to be of some service to architects who desire to compete, we might say "There are no books on hospitals," and let it go at that. But in very fact there is a decided dearth of literature on such work. About a quarter of a century ago Burdett published his two volumes on hospitals, and, even if the work is not now out of print, it is decidedly out of date. Our only other means of assisting is to refer architects to various excellent papers read from time to time before the R.I.B.A. by such authorities as Mr. William A. Pite ("King's College Hospital"), 1915; Mr. Edwin T. Hall ("Manchester Royal Infirmary"), and Mr. Saxon Snell, whose paper on "Modern Hospitals," "Notes on Fever Hospitals," and "A Hospital Ward" should be helpful.

In December, 1913, Mr. W. A. Pite's "King's College Hospital" was very fully dealt with in "The Architectural Review," while "The King Edward Sanatorium, Midhurst," and "Bristol Royal Infirmary" (Messrs. Adams and Holden) have also appeared in the pages of the "Review." H. J.

YMENA TOWN HALL COMPETITION: SECTIONS OF FIRST PREMIATED DESIGN. A. E. JONES AND S. S. KELLY, ARCHITECTS

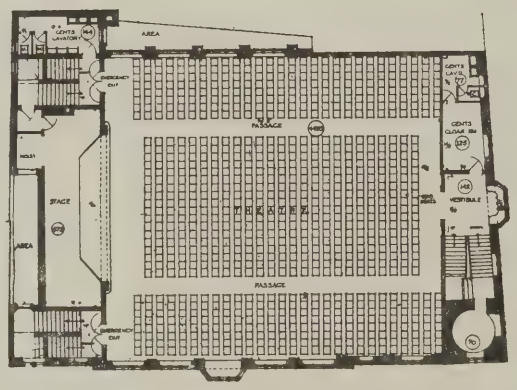
(See next page).

BALLYMENA TOWN HALL

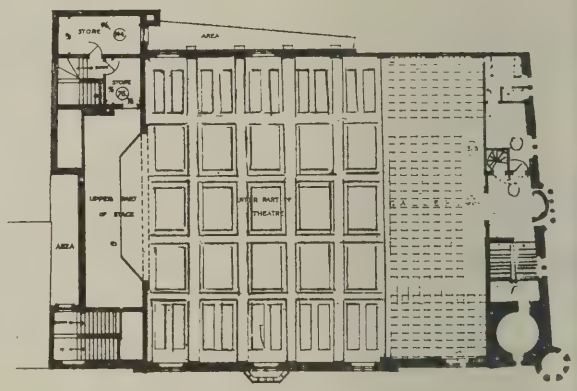


ELEVATION TO MILL STREET

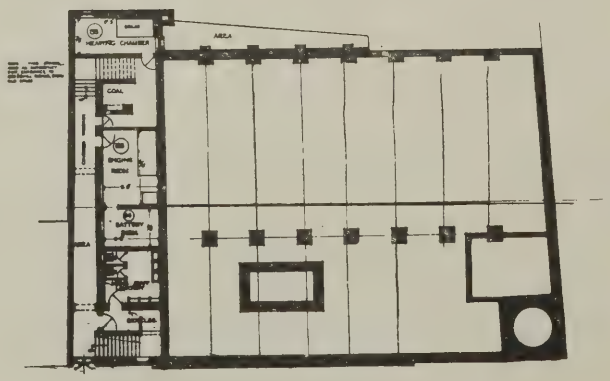
ELEVATION TO BRIDGE STREET



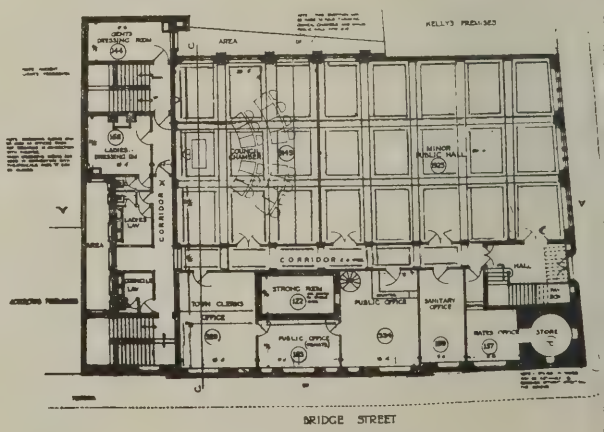
FIRST · FLOOR PLAN



GALLERY PLAN.



LOWER · GROUND · FLOOR · PLAN



UPPER · GROUND · FLOOR · PLAN

BALLYMENA TOWN HALL COMPETITION: FIRST PREMIATED DESIGN. A. E. JONES AND S. S. KELLY, ARCHITECT

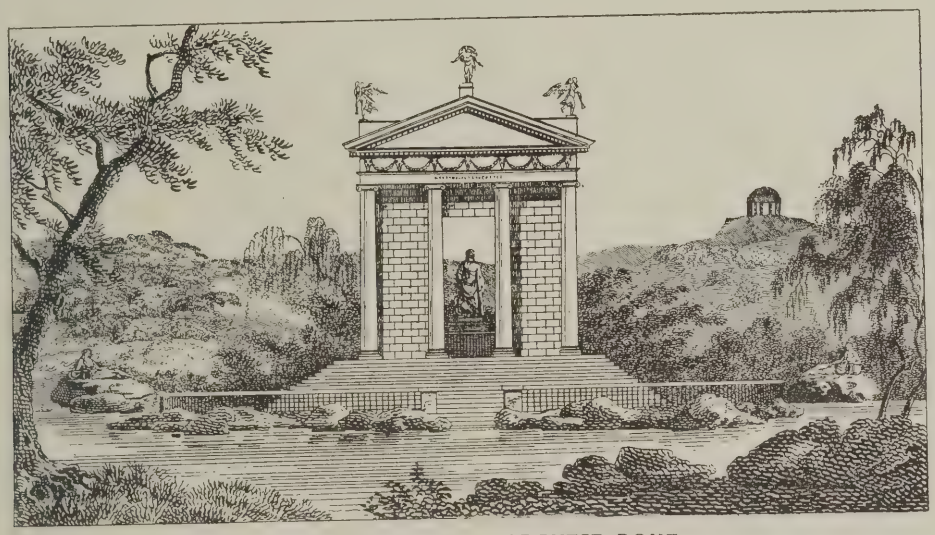
itectural Causerie: More Italian Villas

ours' journey by steam tram from Florence another Medici villa, the Poggio a ano, which was built for Lorenzo the gnificent. The name of the architect inly known, but the design has been uted to Giulio di San Gallo. If Arti- ggested by the two preceeding Causeries, hed for its domestic simplicity, the ggio a Cajano without question are those of ty, both in proportion and refinement. taste, skill, imagination, ordered sequence ge, are the attributes that produce racter of this villa. How delightfully the its above the eaves, how reticent is the detail ented loggia, and with what apparent aban- ly with what consummate skill, the shuttered e been arranged! Yet this elegant villa ost commonplace without the approach stair- conventional arcaded plateau on which it s strange that such a complete design should the attention of architectural historians, but nstance of neglect comes of the obsession for

The gardens and Villa at Castello have already been mentioned in connection with the career of Buontalenti (see Journal for October 27). On the features of the gardens worked the chief sculptors of the time, including Piero di Cosimo, Bronzino, Pontormo, and Il Tribolo. The engineer of the waterworks was Piero da S. Casciano. The name of the Villa Gamberaia, near Florence, first occurs in a document at the Badia of Florence, containing a transfer dated 1398 to Giovanni di Benozzi. Late in the sixteenth century Gamberaia was bought by Giovanni Gamberelli, who effected many improvements, so that the place came to be known as the Palagio of Gamberaia. No written description of this beautiful villa could possibly be adequate. Another fine villa near Florence is the Bombicci, two views of which appear in Mr. Lowell's book.

* * *

The Villa Caronia, which crowns a hill outside Florence, has fortunately fallen into good hands, and is occupied at the present time—or was a few years ago—by an American architect. Here the double loggia with



CASINO AT THE VILLA BORGHESE, ROME.
(From Schuelt).

earch to definite periods, and refusing to ad view of the truths of building irrespective Only a man of taste and a patron of the arts, renzo was, could live in accordance with the grandeur of this villa. To describe it is a own it were a dream.

* * *

Guy Lowell's excellent collection of photo- ich I mentioned in my first Causerie on Italian e Journal for October 20, one of the plates and farmhouses shows simple houses rence, on the road to Fiesole and north , all of which in a minor key reflect of Tuscany at the close of the sixteenth Two other plates show types of doorways, external staircases in harled masonry, while her the gardens and grounds and the Villa pictorially described. These works have been Giulio Romano and Vignola. Lante is per- ost delightfully situated villa in Italy, and the ws the hand of a master. Vignola's design la di Papa Giulio is well known through the of Letarouilly and an excellent eighteenth- nograph, and need not be described again.

the accompanying terraces to the walled gardens and the gable eaves, recalling the English *chinoiseries* of the eighteenth century, make up an attractive picture of refinement and homely taste. The Villa Medici at Florence has a beautiful projecting loggia, with the richly decorated ceiling to the upper portion fortunately in an excellent state of preservation.

* * *

How delightful it is to renew, in such books as Mr. Guy Lowell's, one's acquaintance with such charming specimens of Italian villas as the Aldobrandini Frascati, the Medici, and the Albani at Rome, the Falconieri, Frascati, and Pia. Then the derelict Villa Madama and the Villa Borghese, with the casino in the grounds, provide matter for reflection as well as for study, and a small villa on the Janiculum, near Rome, provokes comparison with modern English practice; so also in its own way the cliff-like Villa d'Este at Tivoli, with its subsidiary terracing.

* * *

Mr. Martin Shaw Briggs has already dealt with the villas on the Brenta in the pages of the "Architectural Review," and Mr. Lowell, who, in his book, covers the ground for a second time, refers to the work of his fore-

runner, but he considerately includes new and interesting subjects, as well as a side view of Palladio's Villa Malcontenta. Our sympathies are further excited with the grouping of the farm buildings in the Emilia, the villa near Lucca, with the loggia on the flat roof, the arcaded farmhouse south of Lucca, the fanciful house outside Treviso, or that on the Padua Venice Road.

* * *

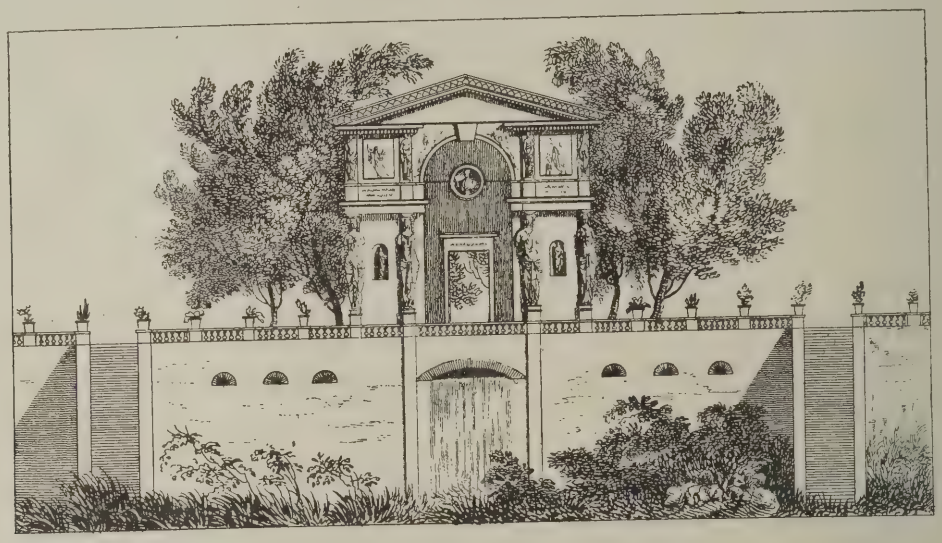
The survey of the Italian villas is at last complete; the cataloguing of dates and names is finished in so far as the subject has been discussed. There remains an intimate, if subconscious, impression of Italian home life during the brilliant period of the Renaissance, reinforced by the peculiar charms of the Italian villa, as revealed in the engravings of Schuelt.

* * *

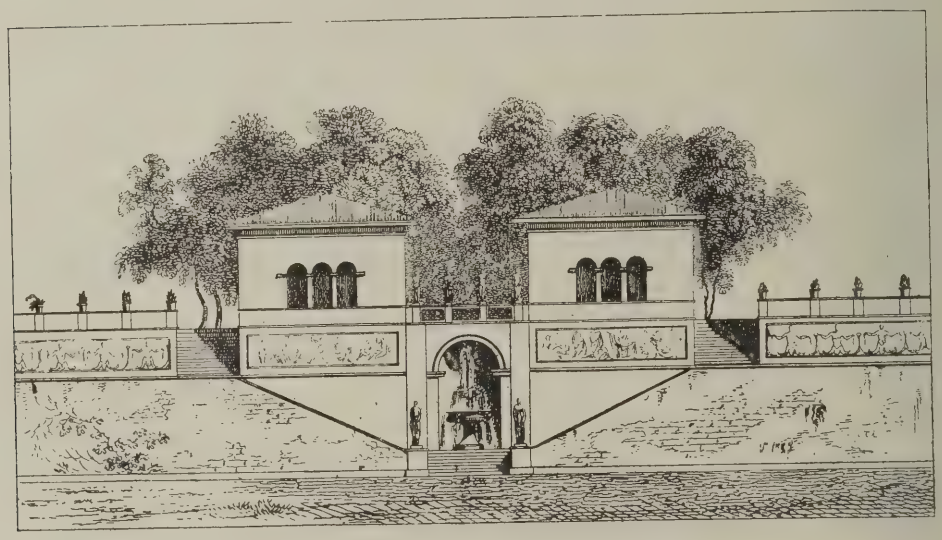
In spite of the distance of Italy from England—not forgetting the existence of chivalrous France, whence we have obtained inspiration at all periods—the Englishman realises that a bond of sympathy (call it sentiment if you like) exists between the two peoples. For various reasons the architecture of the two countries stands aloof. We can take ideas from Italy because of our respect for and intimacy with her customs, but we do not literally transport her masterpieces of architecture and dump them down in our own land. The Italians have had a different upbringing from ours; they are connected by tradition at least, and sometimes by lineal descent, to the old Romans, and have a different understanding of the cl spirit. Their eyes cannot always appreciate the reticence and elusive idiosyncrasies of the building our climate; they have little to learn from us, but have always been ready to give of their best.

* * *

The American approaches Italy with much the purpose as ourselves, but his motive has more of practical in it, for the climate in America admits of interpretations of Italian art as Mr. Charles Platt give. This remark must be qualified with a reserva for there is a tendency in some quarters in Ame impart to simple Italian exemplars undue ri English architects to-day are attracted anew by th netism of Italy, there to acquaint themselves w warmth and humanity of the buildings, not the incentive being a study of the specimens off the track. They imbibe theories of detail and pro with avidity, and although they will mark well the of the idiom, if they are wise they will not endea do more than merge its beauty with the peculiar the vernacular. For, like the eighteenth-century p who studied Nature through the conventions earlier masters, they, too, will appreciate the les the antique more thoroughly through the med Italian spectacles.



AT THE VILLA LOUDOVICO, ROME.



IN THE GARDEN OF THE FARNESE, ROME.
(From Schuelt).

A

Air Views of Buildings. 9.—St. Peter's, Rome

Photo : Topical

The best view of St. Peter's, Rome, is undoubtedly from the air, for it gives us a clear sight of Bramante's great dome whose fine proportions cannot be properly appreciated from the ground level. There is an extraordinary interest in this superb view, with the majestic cathedral in the foreground, Bernini's Colonnade beyond, and the great sweep of the Tiber in the distance.

Zeppelin War Shed Construction

By H. F. MURRELL, A.R.I.B.A.

HORTLY after the Armistice the writer had the opportunity of inspecting certain structures erected by the rmans in Belgium during the war iod, which, on account of their scale l peculiar construction, may not be hout interest to architects. A very at deal might be written of the series strong points forming the defensive s named after Hindenburg and the gnerian heroes, but it is principally in submarine and air bases constructed ne distance behind the lines that the enuity and constructive thoroughness he Teuton is seen. Of war activities, t which appealed to the German heart st strongly was the attack on England, ether by air or submarine; hence, it is surprising to find thought and material shed on structures connected with se methods of attack. Ostend, Bruges, the Ostend-Zeebrugge Canal must e been the scene of feverish and fascing activity during German occupation, the most interesting examples of subine shelter are found in this region. extraordinary strength of these conctions is a direct tribute to the iency and daring of our own Air e.

f even more daring and elaborate conction were the buildings designed to er Zeppelins. Doubtless considerable rimental knowledge had been gained he design of these sheds in pre-war at the great air bases at Friedrichsn and elsewhere. The writer had the rtunity of examining two types of preshed near Cologne when in occupaof our own R.A.F. These were of -permanent construction, one being 120 ft. in span, with roof principals ussed girders at about 24 ft. centres. nother example is about 550 ft. long 140 ft. span, the wall panels between es being filled in with fourteen-inch work. The great doors occupy the full n of the gable end, and were designed old back in two halves after the ner of school sliding partitions. The whole installation was very complete, with gasometer, barracks for crew, etc.

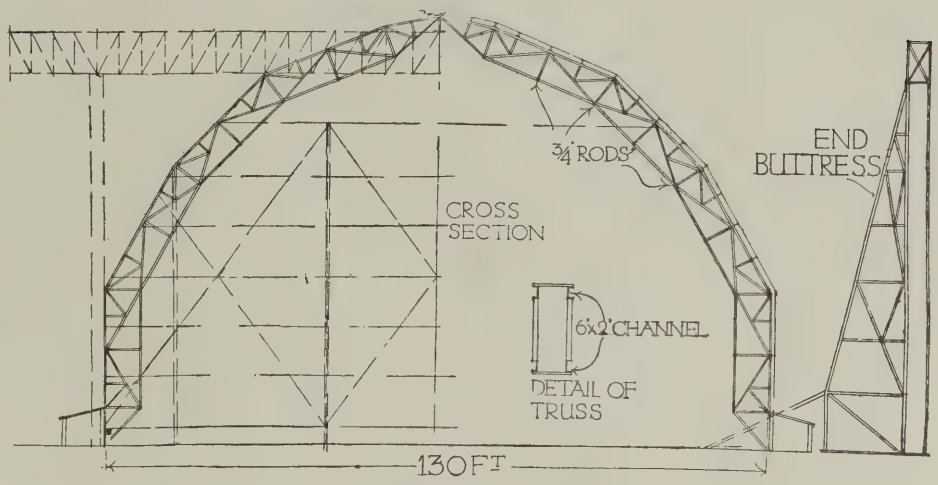


Diagram No. 1.

Of rather similar construction was the great shelter (Diagram 1) erected near Brussels during the German occupation. This is said to have replaced an earlier shed which, with its Zeppelin, was destroyed by our airmen. There was naturally no possibility of protecting such gigantic structures, but they may have been covered with camouflage netting. The span was about 130 ft., the length 450 ft., and the height 70 ft. The great roof trusses at about 15 ft. centres, framed up of channel and angle sections, are almost semi-circles (actually ten-sided), and some ten feet at their deepest. The purlins are R.S.J.'s with wood rafters, boarding and Ruberoid. As in other types of shed, the great doors run on rails, and are worked by motors, being suspended from mighty lattice girders carried on built-up columns which are strutted with raking lattice buttresses taking the wind thrust (Diagram 1). Along either side of the shed were lean-to sheds of brick used for workshops.

Of even more ingenious construction were some sheds near Namur. It might be imagined that the engineer who originated this type sought inspiration from his umbrella. These great structures are virtually umbrellas with the central stick omitted, the struts being hinged at their base and sliding on the main rib.

Diagrams 2 and 3 show variations of the treatment, but the constructional principle is the same. The immense lattice beams must have been assembled on the ground. At their foot is a winch apparatus worked apparently by handles, the whole girder being mounted on rails. Large concrete blocks were constructed at L, and the struts A with their fixed hinged foot laid out under beam K. At the commencement of the raising operation K would have its foot on rails at M (key diagram). Gradually the mighty arm would be raised, being pushed along rails from M to N, strut A conforming itself to the movement, its head sliding on the rails on the underside of K and supporting the latter throughout the operation. The types 2 and 3 vary considerably in detail; type 3 being heavier and apparently the earlier, 2 being almost entirely of light angle sections. The most striking difference between them is in the form of the struts: in 3 they are built-up columns about two feet square, and set in a raking position, whereas in 2 they are built up of light sections bowed on one side and raking out on the other. In both types these struts are themselves supported with curious anchor members attached to them by wire ropes.

In both sheds the end bays are strutted longitudinally internally, while externally the large triangular framed buttresses support the lattice girder carrying the doors. These doors run on rails similarly to those already described, and are framed up of light angle section forming a door four feet thick. The sheds are about 550 ft. long, having an overall span of some 270 ft., and 125 ft. high to the ridge.

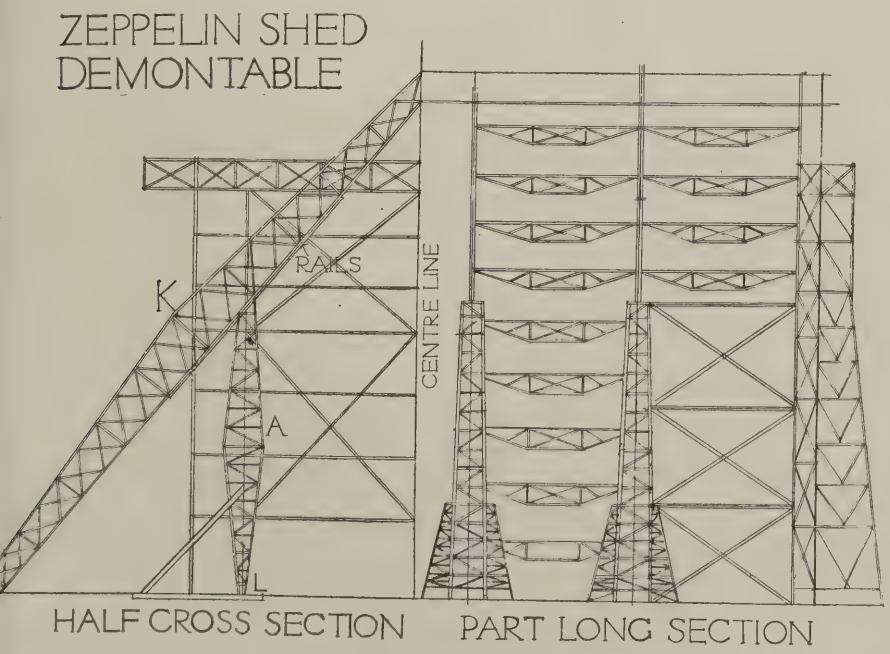


Diagram No. 2.

[The foregoing interesting extracts and illustrations are reproduced from the current issue of the "Journal of the Royal Institute of British Architects" by courtesy of the R.I.B.A.]

Compulsory Dilution and the Operatives

The executives of all the unions affiliated to the National Federation of Building Trade Operatives met in Manchester last week to consider the Government's proposals for the dilution of labour in the building trade. After a long discussion a resolution was passed which suggests a less hostile attitude towards dilution than the unions have hitherto shown.

The full text of the resolution is as follows:

"That having heard the general proposals of the Government through the Minister of Health, Dr. Addison, we find a statement requesting the building trade to accept wholesale dilution and asking the unions to suspend all working rules of our societies which have taken us years of effort, pain, and destitution to build up. We know that if these proposals were accepted it must necessarily be accompanied with intensified insecurity of an industry that has been in the past chief amongst the casual trades. We therefore request the Government to send on to us an immediate reply stating in clear terms what guarantees they have to offer in return for the suspension of those relative guarantees that our trade unions afford before the Federation can give further consideration to the proposals."

In a statement, Dr. Addison put the Government's proposal as follows: They will select certain housing schemes now held up for lack of labour and set them aside as schemes to be carried through by ex-Service men, who will be trained in the various trades as the work goes on, receiving rates of pay based on district rates, rising to the full rates as the men qualify by their work. These schemes will be ear-marked as ex-Service men's schemes, and will be restricted to ex-Service men, apart from those who assist in providing instruction and oversight. The Government would ask the building trade unions to help, especially by encouraging trade unionists to take on the job of training the ex-Service men.

The Government think that 50,000 men should be taken on for training in the various skilled trades of the building trade in suitable proportions. These proposals are in supplement of and not in replacement of the proposals recently agreed with the Building Resettlement Committee of the Joint Industrial Council of the Building Trade, and are rendered necessary by the grave problem of unemployment with which the country is confronted, and the extreme need for additional housing accommodation.

At the same time, in view of the recommendations of the Resettlement Committee that wider facilities should be afforded for the encouragement of new entrants, it is suggested that the augmentation provided under the two schemes should be taken together in respect of the members herein proposed.

Later in the week it was stated that the question of guarantees against unemployment demanded by the conference of building trade operatives was being carefully considered by the Ministry of Health. There is, however, a large consensus of opinion, not confined to official circles, that such guarantees are quite unnecessary, there being no prospect of slackness in the building trade for years to come.

The trade is divided on the subject of taking on the ex-Service men. The bricklayers and carpenters are distinctly hostile, but others are adopting a more lenient attitude.

To remove the fear of unemployment among building operatives, it is pointed out that 450,000 more working-class houses require to be built in order to meet the present deficiency. In addition, the annual shortage of houses is estimated at 100,000. Then there is the question of slum clearances, while an enormous amount of construction is required for commercial purposes, part of which is held up under the powers given to stop "luxury" building. Finally, there is "luxury" building itself, while the great amount of building labour required for repairs must not be left out of account.

Exhibition of Civic Survey Diagrams

An extremely interesting exhibition of Civic Survey diagrams was opened yesterday at the galleries of the R.I.B.A. The scheme for this work originated in the early part of the war in order to find employment for many architects whose work had entirely ceased in consequence of the stoppage of building on the outbreak of hostilities.

The exhibition is of the greatest importance to all interested in improving the amenities of towns and cities, as it is the first occasion in this country on which such a scheme has been attempted. Broadly, the idea behind the undertaking is to give, in diagrammatic form, the basis or ground work for development in town planning. Data covering the whole ground of a city's activities are recorded—the methods of governance, the manufacturing and residential conditions, the places for work and recreation, the incidence of health and disease, the birth and death rates, traffic facilities, the climatic conditions, etc. Part of this information is published in the records of municipal corporations and authorities, which are not very accessible and not always clear in their statistical presentment.

A good deal of the information conveyed by the diagrams is, however, the result of independent investigation by the Survey. Town-planning schemes in past have often been elaborated wit any clear realisation of the sociolo and material conditions governing the or, what is of equal importance, its vironment. In the diagrammatic elaborated by the Civic Surveys these ditions are made comprehensible glance. The areas dealt with com Greater London, and districts in S Lancashire, and Leeds. The Lo Society's "Development Plan of Gr London of the Future" is also includ the exhibits.

Special conferences are being during the exhibition upon such m as London traffic, London housing, p health (preventive and curative), bus aspects of the Civic Survey, Civic S from the woman's point of view, ge and the Civic Survey, the history archæology of London, etc.

During the progress of the work Civic Surveys created a good deal terest, and have been visited by H.M Queen, H.R.H. Princess Mary, Sir G H. Murray, Mr. J. Herbert Lewis, John Burns, and many others.

It is hoped that the exhibition, will be open free to the public for s weeks, will be well attended, and county and municipal authorities wi the advantage of adopting the me which it so admirably outlines.

A City Façade

The interesting extension of 85, church Street, London, the new faç which is illustrated on the opposite has lately been completed from the d of Mr. L. Sylvester Sullivan, A.R. The general contractors were Mess and F. J. Leather, of 17, Victoria S S.W. Other contractors associated the work were as follows: Messrs. lope and Colls, Ltd. (reinforced co floors); Messrs. George Wright, (grates and mantels); Messrs. Asht Horner, Ltd. (shop front). The tural work was executed by Mr. Poole, A.R.A.

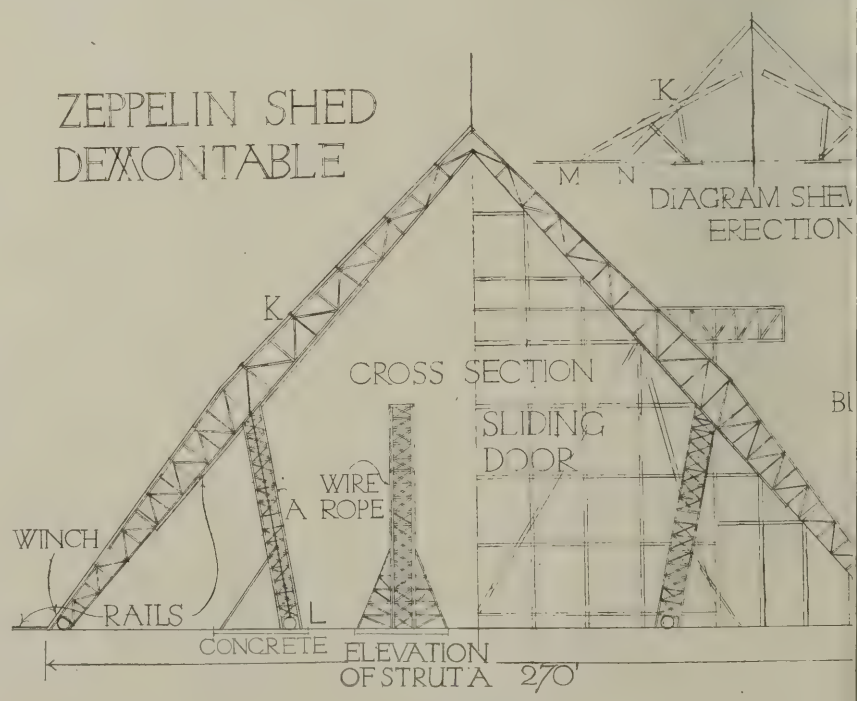
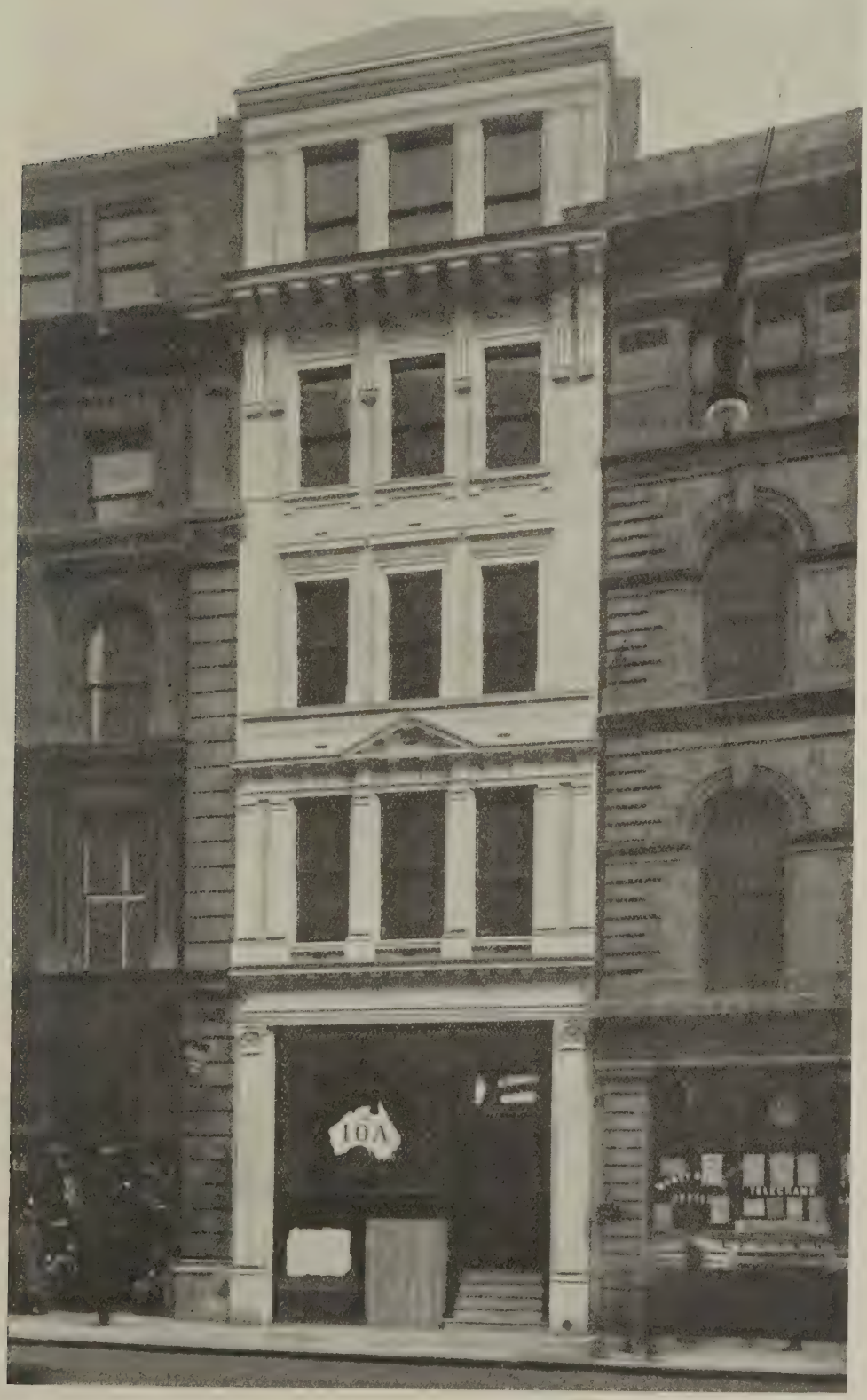


Diagram No. 3.

(See preceding page.)

Current Architecture. 47.—Façade of Extension to No. 85, Gracechurch Street, London, E.C.

L. Sylvester Sullivan, A.R.I.B.A., Architect.



Opportunities for elevational design on a large scale do not often occur in the City, the generality of sites being of extremely limited frontage. Mr. Sullivan has evolved a very interesting architectural treatment for such a site. A working drawing of the façade is reproduced on the double-page plate in this issue.

The Architect, the Engineer, and Registration*

By J. C. DEWHURST, A.R.I.B.A.

ARCHITECTURE has been cynically —yet not inaptly—described as the art of making expensive shadows, the most catholic definition is odied in the motto of the R.I.B.A.: sui Civium, Decori Urbium"—the convenience of the citizen, the embellishment of the city. Charter of 1837 amplifies the to in the following words: "Architec- is an Art esteemed and encouraged ll enlightened nations as tending tly to promote the domestic conve- ce of citizens, and the public im- rement and embellishment of towns cities."

ur ideals are still the same, though methods in expressing them are ever nging. The convenience of the citizen, h it may be noted comes first, nowa- is more perfectly attained by the ication of modern scientific prin- es to the design of all domestic, in- rial, and public structures; to the rovement of old cities, and the laying- of new ones. This attainment can be marised as physical efficiency in ding, but it cannot be regarded as itectural in the true sense unless it esses the quality of giving that visual faction which it is our duty to create for the ultimate betterment of the community. As Professor Lethaby says: "More than exquisite style we need an architecture of amelioration."

The aspect of architecture as an important part of civic service, and how to extend its usefulness in this respect is worthy of our consideration. The unrestrained individualism of the Victorian era is now on the wane; an individualism which has presented this unfortunate generation with a hideous legacy of slums, and with complex problems which almost defy solution. During this period, when our art was thought of only as a luxury for the rich, genius dwelt apart and wrought in splendid isolation. The architect was often a law unto himself, as is testified by an absence of group unity in much street architecture of the period.

Necessity for Co-operation

We are beginning to perceive now that isolation tends to result in mental and spiritual starvation, and that the usefulness of our work to the community can be increased by a fuller co-operation between architects and others interested in or connected with the science and art of building; in effect, by a closer working union within the arts.

It has been said that competition is the only incentive to progress and good work. Competitive strife, however, is in reality wasteful and extravagant when carried to the extremes noticeable in so many directions before the war. Very few men deliberately prefer to turn out bad work, and most men rejoice in the exercise of their powers towards greater perfection, but this joy does not necessarily spring from selfish motives, and can often be experienced under co-operative conditions more fully than under those of competition. We must come to the conclusion, I think, that the central building scheme which has been proposed will not only be of as much material benefit to our profession as is desirable, but will also serve the wider interest which I have attempted to outline.

We all hope to get into closer touch with engineers, for they should be our staunchest allies in view of the trend of modern work. An engineer once described the difference between one of his profession and an architect, as "the difference between the thin and thick line." The epigram certainly hits off one point of difference, namely, the tendency towards extreme accuracy on the part of the engineer, by which means, among other things, he makes a small-scale drawing do far more for him than an architect usually considers necessary. Lewis Carroll probably would have described such an exhibition of minute draughtmanship as a portmaneau drawing. In this respect we have much to learn from the other profession, for the greatest accuracy consistent with the scale of a drawing is always desirable, and we sometimes fail in the case of small-scale drawings, partly through our reliance on large-scale details.

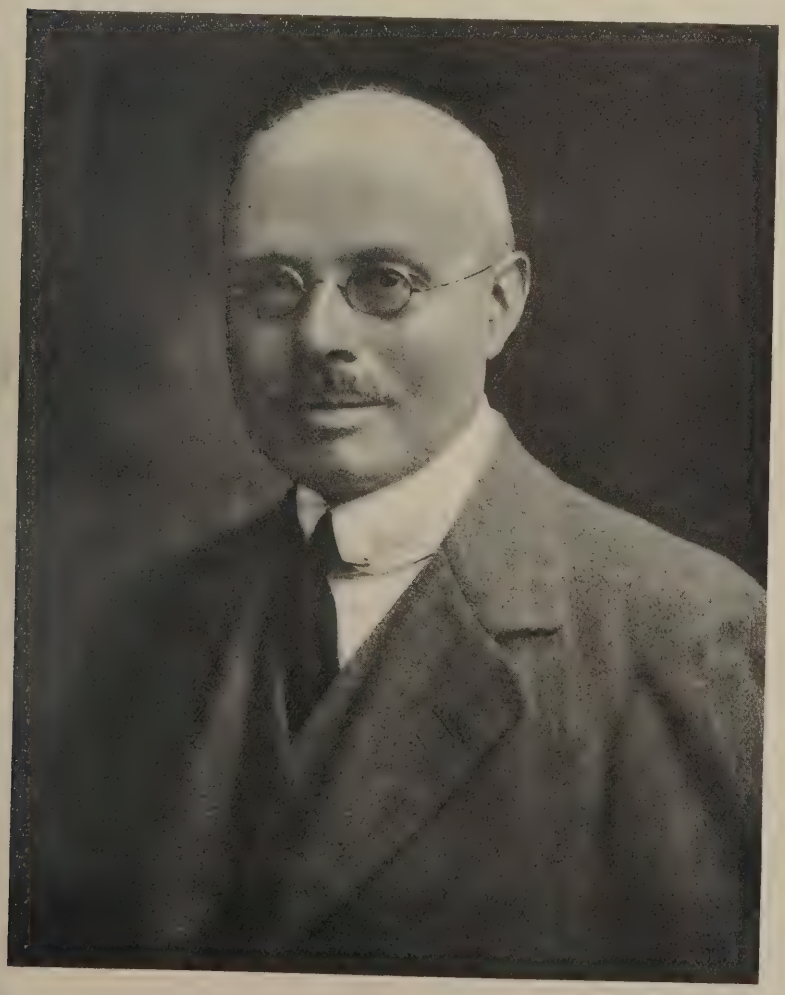
It seems to me another characteristic of the engineer is that he thinks in cubes or quantities of material, while the architect thinks in cubes of space enclosed by material. The one concentrates at once upon what he deems to be the practical requirements of a problem, and, ignoring architectural embellishments as an asset, often treats them as something extraneous to the design, something to be added afterwards for the purpose of appeasing certain troublesome people who insist on having such things.

The other, concerning himself with principles of proportion, scale, and harmony, strives to express necessary requirements in terms of beauty, and uses adornment either to emphasise his construction, or to give charm by contrast with plain surfaces. It would be a good thing for both, frankly admitting their respective limitations, to recognise the value of compromise, and to co-operate as far as possible on equal terms.

Unity in Ireland

One must note with satisfaction the formation about a year ago of a Joint Council of Executive Professions at the suggestion of the past President of the Institution of Civil Engineers of Ireland, because it should lead to better relations being maintained between the two professions in the future. To my mind there should be no claim for the supremacy of any one profession or art over another. Their common aim should be to render the greatest service to the community; and unless we care more for our work

*xtracts from the Presidential Address to the Architectural Association of Ireland.

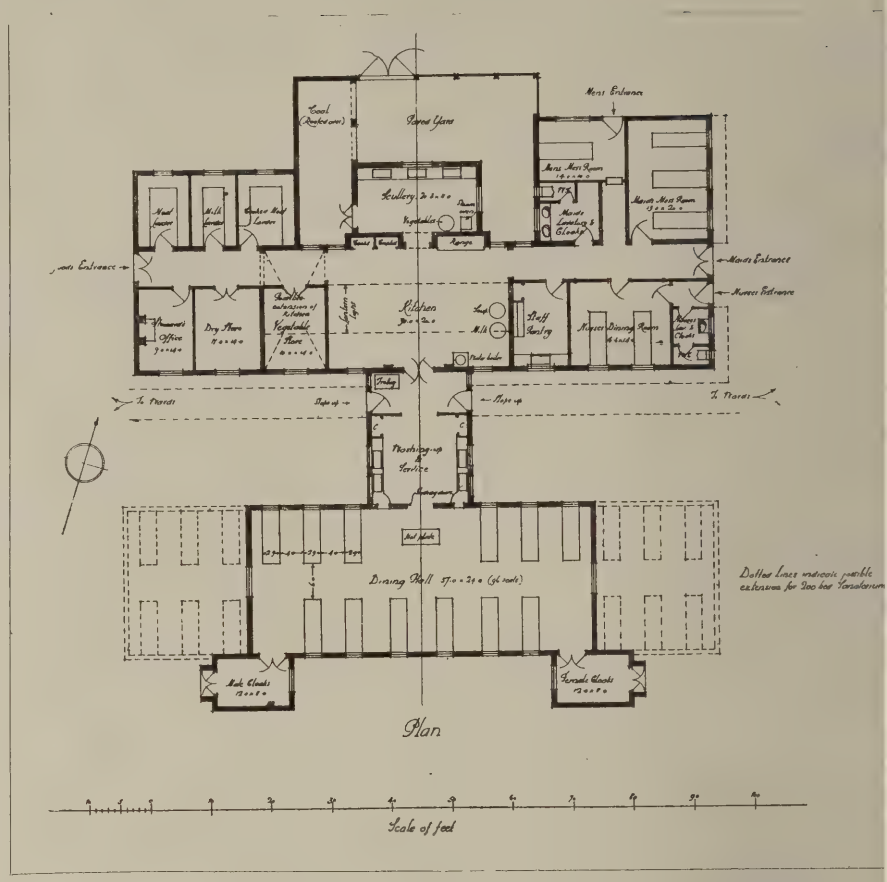


MR. J. C. DEWHURST, A.R.I.B.A., PRESIDENT OF THE ARCHITECTURAL ASSOCIATION OF IRELAND.

than ourselves, and seek not ascendancy but service, we cannot hope to reconcile our differences, and to reach that closer working union for which some of us venture to hope.

Architectural education is a subject of vital importance to-day; a most difficult subject, and one which will be influenced greatly in the future by registration, which is certain to be established sooner or later. Unfortunately, there appears to be very little chance of a Registration Bill for architects becoming law within the next year, for the Council of the Institution of Civil Engineers, who are in advance of us in promoting a similar Bill, issued a statement a few months ago to the effect that time and facilities could not be found for its passage in the present session of Parliament.

We are now passing through the stage traversed by the medical profession about the middle of the last century, when doctors' apprentices undergoing various forms of irregular training gradually became medical students receiving scientific education under the auspices of the medical schools. It seems to me that before we can hope to secure all the professional advantages which should be ours, we must be represented under registration by some authority—call it what you will—similar to the Medical Council, able to give the public the assurance that its members are competent for the work they have to perform, so far as the schools can make them competent.

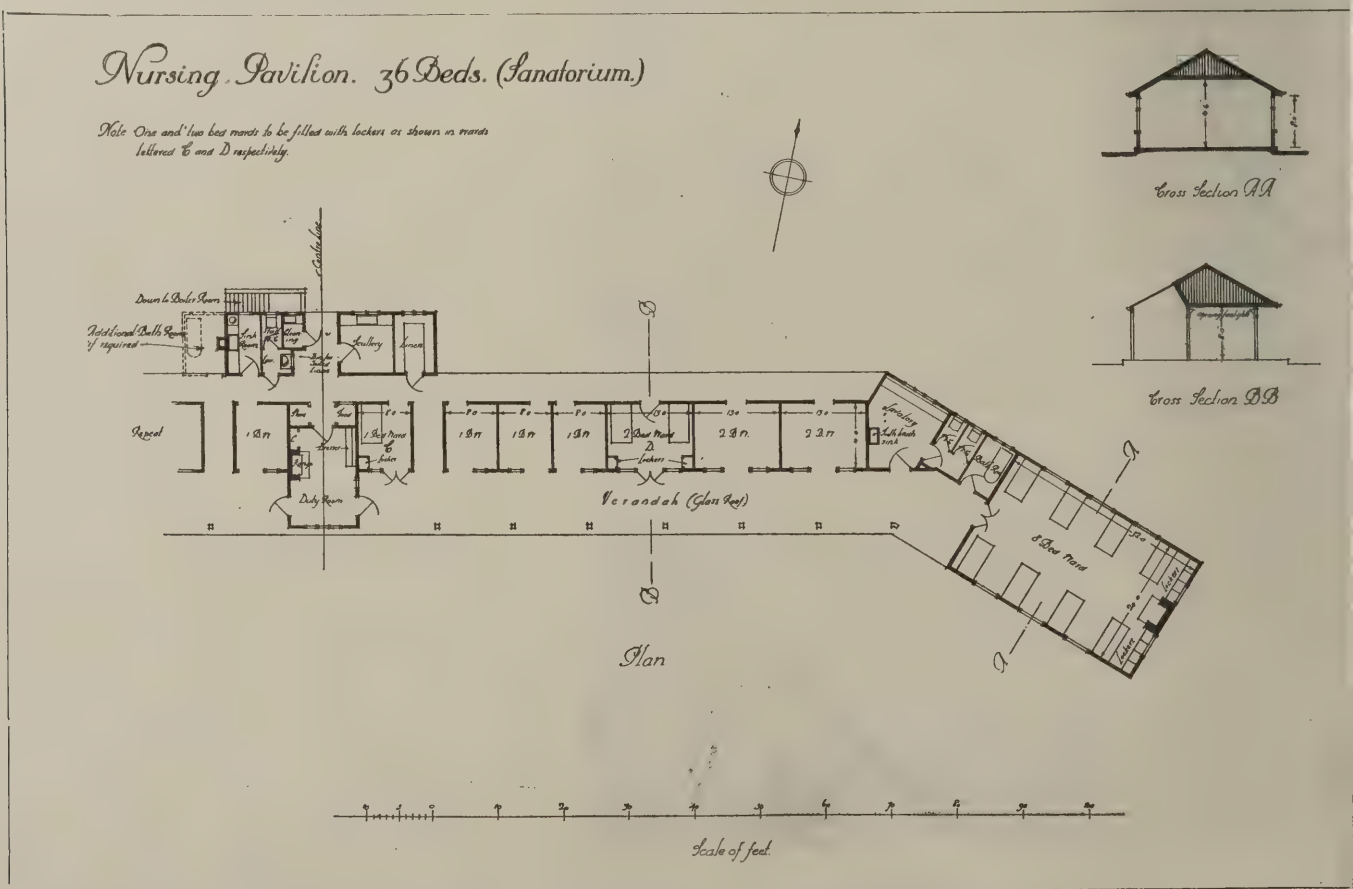


DINING HALL AND KITCHEN FOR A SANATORIUM. (PLAN F.)

Plans for Sanatoria

In our last issue we illustrated some type plans of pavilion and other buildings for model sanatoria, recently issued by the Ministry of Health. This week we show some further types. Plan E illustrates a pavilion suitable for the classification of patients in separate buildings, according to their pathological requirements. The remaining plans illustrate various types of administrative buildings.

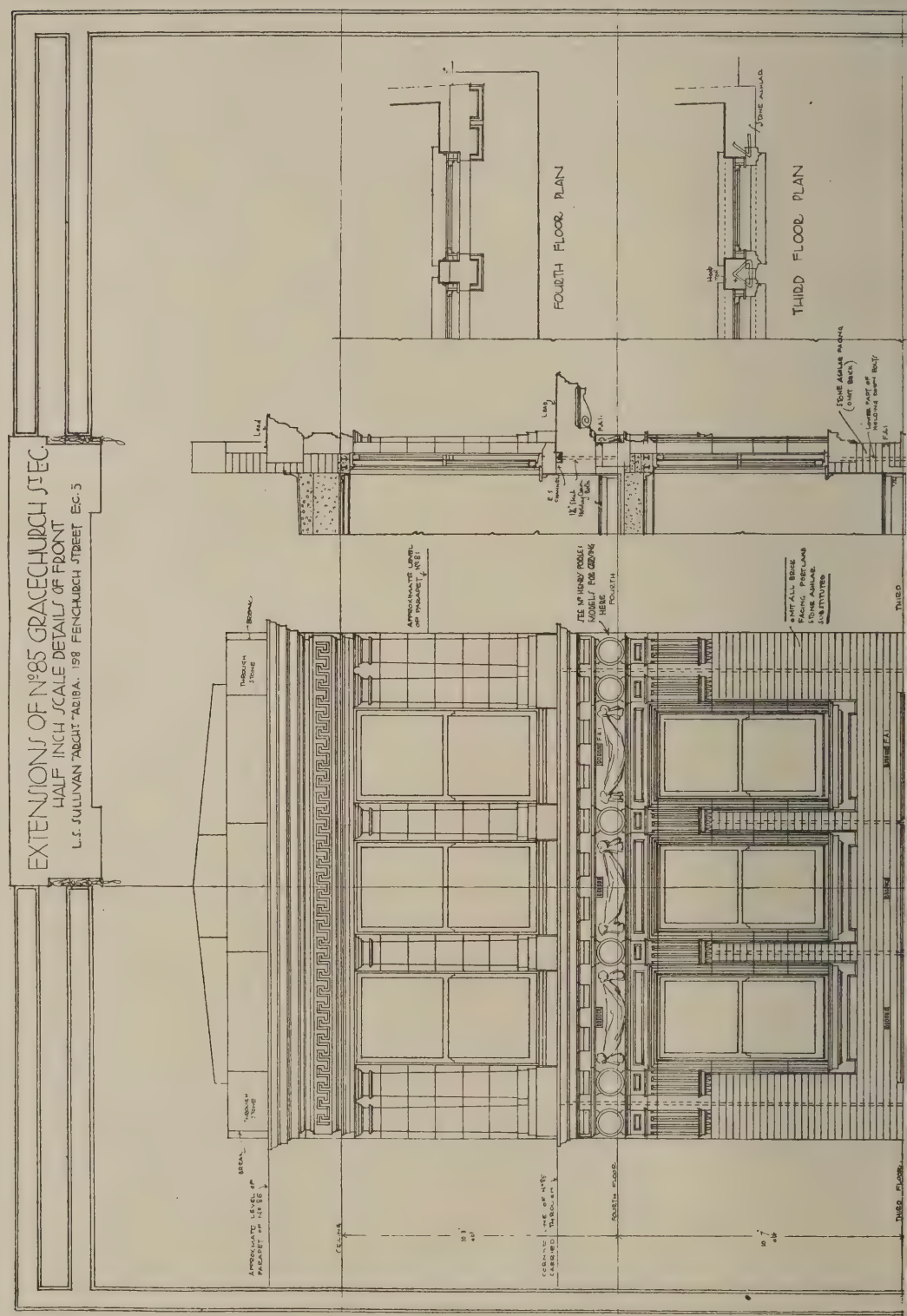
These plans supersede those include the memorandum on the provision of residential institutions for the treatme pulmonary tuberculosis issued by the Local Government Board.

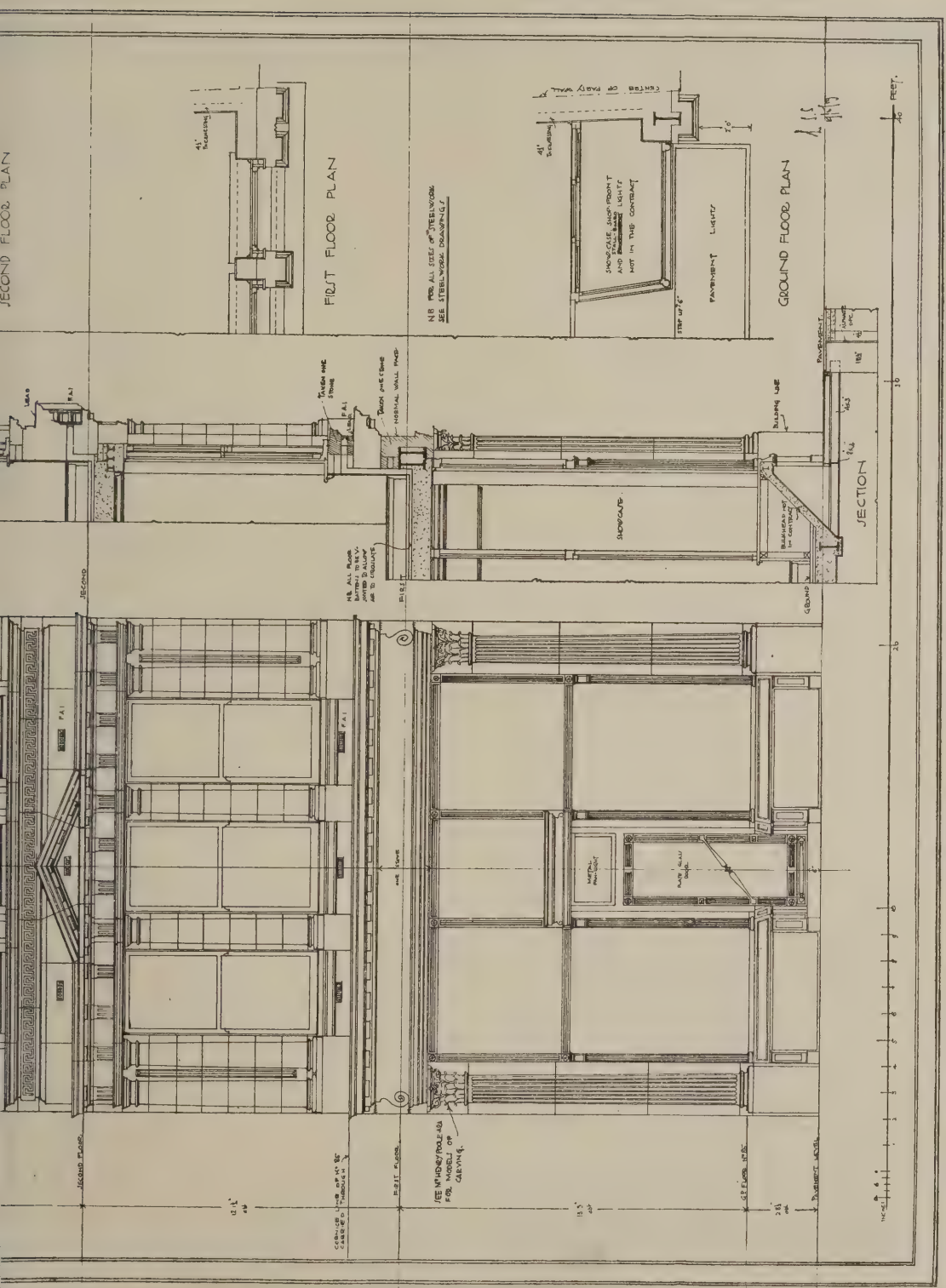


SANATORIUM PAVILION SUGGESTED BY THE MINISTRY OF HEALTH. (PLAN E.)

Architects' Working Drawings. 21.—Façade to Extension of No. 85, Gracechurch Street, London

L. Sylvester Sullivan, A.R.I.B.A., Architect





The narrow frontages which are so frequently encountered in the City do not afford much scope for architectural design. In the present instance, however, a successful façade has been achieved by giving a distinctive treatment to each storey, emphasis of the horizontal dimension helping to produce an effect of good proportion. A photograph of the façade is reproduced on page 487.

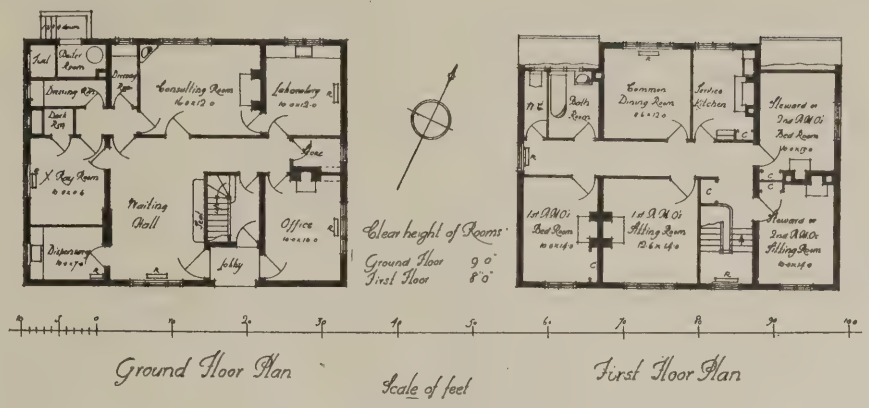
Correspondence

entral Heating for Small Houses.

o the Editors of THE ARCHITECTS' JOURNAL.

IRS,—We have read with considerable rest the very able lecture given by Mr. rence M. Lyman before the Society of nitects, and the discussion which fol- ed. During the course of the latter ral statements were made by those took part in it which appear to us to v some misapprehension as to the pre- nature of this system, and we trust in view of the circumstances you will v us to explain one or two points on ch there appears to be some misunder- ding.

r. Freyberg asked if this system of ing resulted in fumes rising from the ng of the furnace. The answer to is that no fumes would rise from the ngs unless dirt and dust collected in n. From the very construction of the ace as installed this is an impossibility, actual fact being that the bulk of lust of the house drawn or swept down grating falls to the bottom of the ngs (where the air speed is inten- lly decreased) and remains there, where it can be collected periodically. effect of this is that not only does it nake additional dust in the house, as ested by Mr. Nobbs, but further, the ional dust and dirt of ashes and coal deposited about the house by means he ordinary stove and open grate m is entirely obviated. As a result, ystem to some extent actually cleanses nouse.



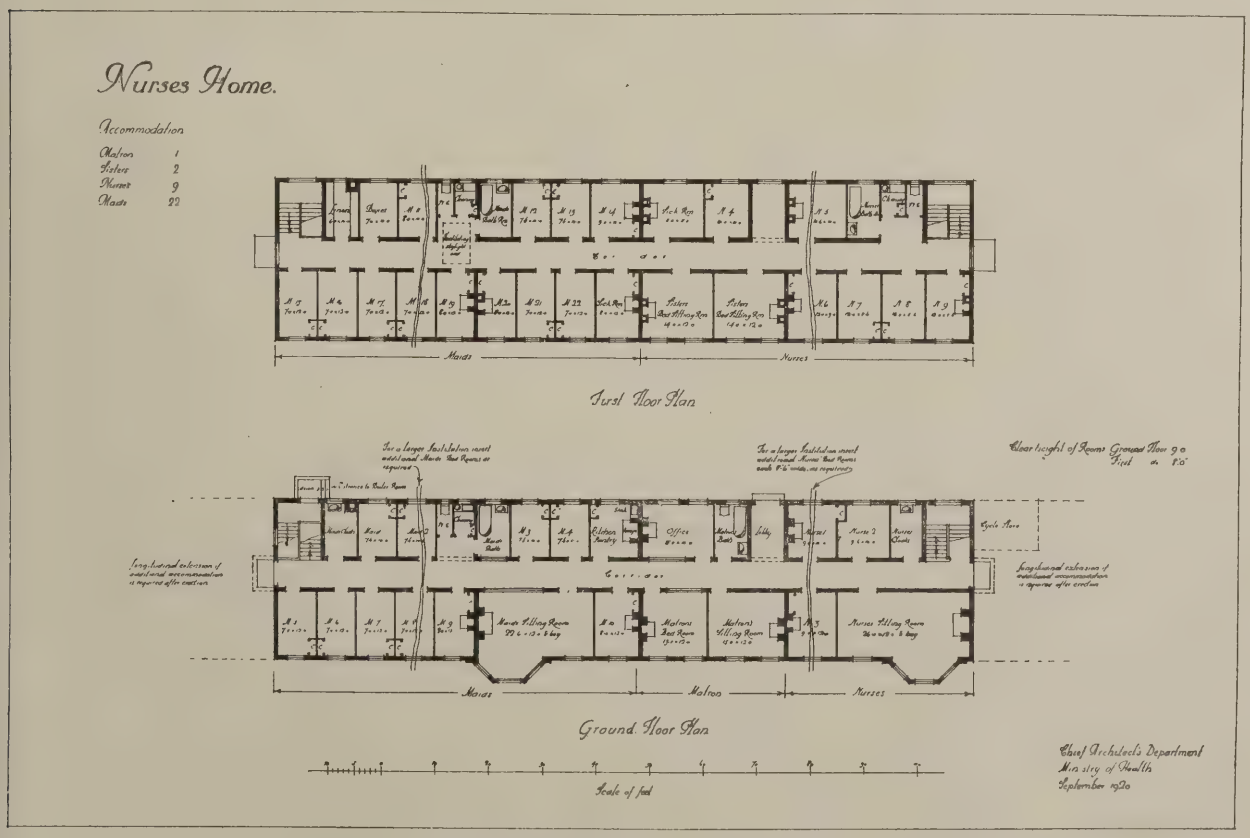
PATHOLOGICAL AND A.M.O.'s QUARTERS. (MINISTRY OF HEALTH PLAN H.)

In dealing with Mr. Freyberg's remarks, we would mention that the term "one pipe" system is a misnomer, as the Caloric system is usually known as the "pipeless" system. It is possible, however, that this name may have been used by the lecturer to avoid using any trade name.

Concerning the point which was raised by some of the gentlemen taking part in the discussion as to the circulation of foul air throughout the house, we would point out that exactly the same means of ventilation are used with this system as with every other system, whether radiator or open grate. How is ventilation of the house effected ordinarily? The fresh air is obtained through the windows and the doors and by general leakage through the structure of the building. Exactly the same ventilation is used in this system, with the additional advantage that there is a continual interchange of all the air in the house. In actual practice the air is completely circulated throughout the house about three times per hour.

From Mr. Nobbs's remarks it would appear that he is not distinguishing between this system—"one pipe" or "pipeless"—and the old American pipe furnace, in which the warmed air was led to each room in the house by separate pipes without any means being provided for outlet, re-circulation, and humidification. This pipe furnace system is, of course, similar to the French "Calorifere" or the old "Grundy" heaters.

With regard to the point raised by Mr. Marsland, we would say that so far from the initial cost of new houses being considerably raised by the adoption of this system, it is in fact considerably reduced, as the cost of the small basement (a cellar 6 ft. by 8 ft. by 6 ft. high is sufficient for the purpose) is far more than offset by the great saving in chimneys, fireplaces, etc. It also has the additional advantage that the elimination of all chimney breasts



NURSES' HOME IN MODEL SANATORIUM. (PLAN G.) SUGGESTED BY MINISTRY OF HEALTH.

(See preceding page.)

enables the useful floor space and cubical content of each room to be considerably increased, still retaining the same overall dimensions of the house.

With regard to the point raised concerning contagious diseases, the air circulation is actually an advantage, as, for instance, with cold and influenza germs, the air is completely sterilised by the radiant heat from the hot surfaces of the furnace every time it passes over them. Further, by the addition of a little disinfectant to the water in the water-pan, this disinfectant can be driven throughout the whole house several times per hour.

There is one point which appears to have escaped the notice of the gentlemen taking part in the discussion; that is, the humidification of the air effected by the water in the furnace water-pan. This enables the whole air of the house to be kept at the proper degree of humidity necessary for health, this advantage being absent from other systems. It further has the advantage that the warming of the house does not adversely affect furniture and wood fittings.

We note Mr. Lyman stated that over 100,000 houses of all classes are fitted with this system in the United States, but we would say that as regards the Monitor system, now being introduced into this country by us, over 110,000 installations have been made in the United States of this make alone. There are also a number of other makers upon the American market.

With regard to the inquiries by Mr. Nobbs concerning the temperature of the air as it leaves the furnace, its volume, force, etc., this entirely depends upon the temperature required and upon the details of construction of the house. We suggest that the best way we can supply these figures is to allow Mr. Nobbs or his representative personally to inspect a furnace or furnaces installed and working in the London district. We have made a considerable number of installations in the last few months, and several users have expressed their willingness to allow interested parties to see the installation for themselves.

THE MONITOR HEATING CO.
OF GREAT BRITAIN.

Highgate Art Exhibition

There were several things of architectural interest at the Highgate Art Exhibition, held at Highgate Village last week.

Mr. Hanslip Fletcher contributed a good drawing of Exeter Cathedral, which is among the best of his works we have seen "Lothbury and the Bank of England," "Trinity College, Cambridge" (an interior), and the coloured "Norwich Cathedral" were other exhibits by him.

M. J. Loell's "Old Doorway at Bruges" was a really beautiful example, and Percy W. Lovell's "Palais de Justice, Bruges," "Quai Espagnol, Bruges," and "Notre Dame, Bruges" were all full of interest and finely executed. Mr. Frank Brangwyn was represented—though not well represented—by a rather chaotic picture, "The Rialto, Venice." Jessie D. Wright's interior of the Temple Church, London, was a very careful and finished drawing.

Mrs. Margaret Hawkins's "St. Wulstan's Crypt, Worcester Cathedral," was rather too stilted. Sir Neville Wilkinson's "The Student," and again "The Russian Cap" were alive with colour, and among the best things there.

Dorothy M. Bennet's "Old Cottages, Highgate," were a little idealised.—H. J.

Enquiries Answered

Fire Insurance.

INSURANCE writes: "A client of mine has recently bought some property and asks for what amount he should insure it against fire. I should be glad of advice as to the best way of arriving at an estimate. What books can be recommended on the subject?"

—The only safe rule to follow is to insure the buildings for the full amount at which it would be possible to rebuild them if totally destroyed. This is now about three times pre-war value. G.

Steps Up River Bank.

CORRESPONDENT writes: "(1) It is proposed to build a flight of stone steps, 14 ft. wide, obliquely up a river bank which slopes at an angle of 45 degrees from the river. Owing to the steepness of the bank the steps must be built obliquely and they will run from low-water level to a height of 90 ft. Owing to the fact that the river rises with a very swift current to a height of at least 90 ft., and even 108 ft., the steps will be covered several times a year. Is it essential to build the whole core of the flight of steps in solid stone (cement not being available), or would walls 2 ft. 6 in. thick, built on either side with two 'sleeper' walls inside stepped to take the treads, the whole filled in between with well-rammed earth, be reliable? Similar steps to the latter, but without the 'sleeper' walls, have been built at this place. After the first season, when the water went down it was found that while the side walls were in good condition all the treads had settled and broken in half, the stone being soft and soaked with the water. This may, of course, have been due to the earth not being rammed sufficiently, or it may have been due to the earth core being washed out at the bottom of the flight of steps as the water retired. The building of a solid core is very expensive. Would it be suitable to use cobble stones as a filling and block stone for the side walls and 'sleepers'? One could, of course, build up the side walls, fill in with earth, and then leave off the treads for one season until the earth had been settled by the river, but this would mean a delay. The local masons say that the old existing flights of steps are built up solid and that it is again necessary to follow this method. The 'stock' stone available is 3 ft. by 1 ft. by 1 ft., with a rather smaller size for the fill. (2) A bunding in stone is also required for the same river. The river rises at flood time to 5 or 6 ft. over the top of the bunding. Would it be possible to work this out as a retaining wall or must it be worked out as a dam on account of the water working through?"

—(1) The most important point of all, the nature of the soil and subsoil, has been omitted. A good foundation is absolutely essential, and the circumstances render it particularly difficult to obtain. Assuming that the foundation is sufficient it will probably be best to build substantial walls on either side with two-stepped sleeper walls between, connected together with cross walls about 10 ft. apart. The outer wall may be strengthened by buttresses at similar intervals. If, as appears to be the case, the foundations of the walls will be stepped upwards as they rise in the bank, there will be great difficulty in preventing movement as a whole when the water rises and the ground becomes sodden. Filling the intervals with rammed earth would rather increase the pressure on the walls than reduce it. There should be landin at least 4 ft. wide—say at every twen five steps of the height. (2) As the wa will be equally on both sides of the w there will be no water pressure to wi stand, but the earth will be soaked a there will be a greater tendency to s when the water subsides, therefore t wall must be built to withstand a grea pressure than is at first apparent, and less well drained it should be calculated a dam. No figures can be given as nature of the soil is not stated.

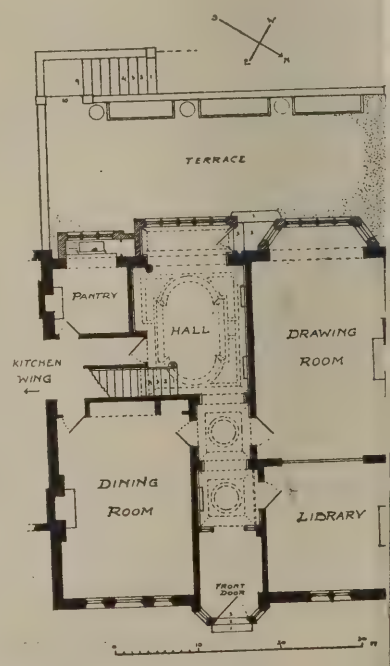
HENRY ADAMS

Modernising a Liverpo House

The plan reproduced below, and the terior view on the page facing, illustrate alterations which have been carried ou "Eastbourne," Prince's Park, Liverp a stone-faced house of the Mid-Victo Gothic type, which had already been some extent modernised. All the wind on the garden front have been removed new bay windows added in cream-colo Stancliffe sandstone, the old wall-fa being cleaned and re-used for the filling The terrace has been enlarged, with a s retaining wall replacing the former g slope.

In the interior the Gothic arches of vestibule have been removed and the on the garden side enlarged and conve into a "sitting-hall," the panelling b in ivory white, with enriched pl cornice and ceiling bands. On the floor a new visitor's bedroom suite an additional bathroom have been forme

The general contractors were Me G. H. Morton and Son, of Liverpool, also carried out the redecorations, an other contractors were as follows: riched plaster-work, Messrs. Ben H Johnson; steel-cored casement win Messrs. Welstead, Ltd., of Croy radiator cases, the Artificers' Guild. architect was Mr. Ronald P. Jones, M of 7, Stone Buildings, Lincoln's London.



ALTERATIONS TO HOUSE AT LIVER

(See opposite page.)

Modern Domestic Architecture. 21.—The Hall (as altered) at "Eastbourne," Prince's Park, Liverpool

Ronald P. Jones, M.A., Architect

This view shows part of some interesting alterations recently carried out in a house of the mid-Victorian type at Liverpool. The hall is panelled in ivory white, with enriched plaster cornice and ceiling bands. The exact nature of the alterations may be seen from the plan reproduced on the opposite page, whereon some descriptive notes are also given.

Modern Irish Church uilding and Furnishing

By R. M. Butler M.R.I.A., F.R.I.B.A.

(*Concluded from p.* 370, *No.* 1344.)

Good thick, small slates of varying e and broken colour, which are sold by ght, laid in courses of graduated size m eave to ridge, should always be d in church roofs. Of course, they t more, require more skill and care in dling, but they are worth it, and, when l laid, make an almost everlasting roof good appearance, giving scale and xture" to the building. Very effec- results may be secured with varying ken tints. Nothing looks better than a e roll on the ridge, or a plain ridge as near the colour of the slates as pos- e.

Roofs.

he roof of a church is a very impor- feature of the interior. Best of all is e vaulting, but it is seldom that funds permit this most beautiful of all tments to be adopted. Next to it are n-timbered oak roofs, but such roofs also too costly for ordinary resources. ny of the Irish church roofs are "open- bered." Apart from the fact that they usually varnished, and of an unplea- yellow colour, their great fault is the timbers are much too light for treatment. Where only thin timbers be afforded, then it is much better to er them up with a "waggon ceiling" barrel vault, sheeted in wood or tered, or to adopt some other simple tment. Where such open roofs already t, the best thing is to decorate n in colour and gold.

tch pine or oregon pine, unstained unvarnished, left in its natural state, very suitable material where oak can- be provided. If the timbers can be y, that is to say, the rafters not less 4 in. thick, and everything else in portion, then an open-timbered treat- t may be attempted, otherwise it is er to cover up the roof: diagonal els and similar patterns in sheeting ys look cheap and vulgar. If carving ioulding be used it should be done in tural and appropriate way. Concrete ts may be constructed with good t, and left as a field for colour deco- n. They have the advantage of g fire-resisting.

Utility of Fibrous Plaster.

brous plaster is a very useful modern erial that lends itself to colour deco- n, but it should be used in such a way ot to imitate stone. As the material tually cast in slabs, I think it is per- ible to show the joints if desired, and ain that effect of "scale," and texture, which is one of the advantages of work.

the old churches the walls were lined with dressed-stone. It is rarely find this in modern churches in nd, which is a pity, because the construction lends scale to the in- r, is durable, and in time acquires a mellow tone. A sandstone of cream ddish colour makes a very soft plea- interior, and obviates the necessity colour decoration. Hard limestones pt to show condensed moisture. The tectural treatment of the doors and ows in stone adds much to the ty of the church.

If, however, it is only possible to finish the interior in plaster, it is better to do it very simply without unnecessary mouldings, or attempts to simulate stone. I prefer a rough finish on the walls, and it is well to avoid the usual practice of finishing the mouldings or angles in white, with the rest of the wall in grey, as it adds a jarring note.

Columns.

With regard to the columns, it is much better to have simple stone shafts, moulded if possible. It is also destructive of restfulness to introduce a large variety of materials. It is much better to mould the capitals of the shafts, or even to dispense with them, if ample funds for good carving are not available. The foliage carving commonly seen is without interest. It is purely mechanical as turned out by the journeyman carver. If carving is desired, then let it be the best possible, done by a carver who can impress his individuality on his work, and is capable of varying and giving interest to it.

In Ireland the altars are usually of Sicilian marble, a very cold-looking material in this country, and ordinarily employed and carved in a manner more suited to soft stone than to marble. Marble should be used in broad smooth masses. It lends itself well to simple flowing curves, panelling, and inlays, rather than to elaborate carving.

Altars and Pulpits.

Speaking generally, either stone or alabaster is a more suitable material than marble for altars, pulpits, and similar work. Stone shows carving to much better advantage. It is rather a pity, too, that good carved oak work is not more largely availed of for such purposes as a reredos or pulpit. Admirable effects may be obtained at considerably less cost than in marble or stone.

The painting or gilding of either stone or alabaster must, it need hardly be said, be done with great skill and restraint. Marble does not hold shadows well, therefore elaborate mouldings are more or less out of place in this material, and the beauty of its marking and veining, and the variety and richness of its colour are thereby lost. Very good effects may be obtained with native Irish marbles, properly used. Alabaster is a material which has fallen much into disuse in Ireland. Very fine effects in altars, pulpits, rails, etc., may be produced in this material, which varies in colour from red to white, and is often beautifully marked. It carves well, and may be reinforced with gold and colour. Very elaborate tracery, crockets, finials, and "tabernacle work," which would be lost in marble, can be used with effect in alabaster.

Floors.

The floor of the chancel may be of marble, tiles, mosaic, or wood. A real marble pavement is perhaps the best of all. Black and white or grey, with coloured marbles, make a combination which is hard to beat for dignity, solidity and durability. Encaustic and glazed tiles of good mediæval pattern in combination are very suitable and exceedingly fine and rich effects can be produced.

[The first part of Mr. Butler's interesting survey of church building and furnishing in Ireland which appeared in our issue for October 6, dealt, *inter alia*, with the work of the Gothic Revival, and concluded with some critical comments upon the right use of materials.]

The Master Glasspainters Society

At Painters' Hall the Memorandum and Articles of Association of the British Society of Master Glasspainters has been signed by the Provisional Council. The Right. Hon. the Earl of Plymouth, P.C., C.B. (president), and Professor Selwyn Image (vice-president), were present, and the signatories included Messrs. A. Marriott Powell (hon. treasurer), Maurice Drake (hon. secretary), Wm. Aikman, Percy Bacon, R. C. Bayne, Reginald Bell, H. Grylls, F. C. Eden, J. A. Knowles, G. P. Hutchinson, Graham Simpson, A. K. Nicholson, and Walter E. Tower.

The council and officers of the newly-constituted Society were afterwards entertained at dinner by the Court of the Worshipful Company of Glaziers, the Worshipful Master (Sir Harry Foster, J.P., D.L.) being supported by the Most Noble the Marquess of Carisbrooke, G.C.V.O., an Honorary Freeman of the Company, and the ex-Master and Wardens.

The Worshipful Master extended a welcome to the guests, and in referring to the work accomplished in the past by the Livery Companies of the City of London, invited discussion of the suggestions for technical education laid before the meeting by Captain Maurice Drake. He was extremely gratified to think that the Company could embark on its scheme with the valuable technical advice of the Society, and also that the Society should take advantage of the prestige of its own Trade Guild founded in another reconstruction period seven centuries ago.

The Right Hon. the Earl of Plymouth, returning thanks as president of the Society for the welcome extended to the council, said that it augured well that at so early a stage a reunion was possible between the old Company with its venerable traditions and the new Society with its unrivalled technical knowledge.

Mr. L. Paget-Walford, ex-Master of the Glaziers' Company, said that he could not associate himself with the scheme of education laid before them by Captain Drake. In his opinion the handicraft of stained glass could be better taught at technical classes than during an apprenticeship. Mr. A. Marriott Powell and Mr. H. Grylls defended the apprenticeship system, whilst admitting that its value depended largely upon the personal character of the master. Captain Drake said that he did not pretend to lay before them any cut and dried scheme of education, but only his own opinions and suggestions as a basis for discussion. He considered that the public needed education in the merits of good stained glass quite as much as the apprentice glasspainter. The Most Noble Marquess of Carisbrooke agreed that the public needed education in stained glass. For his part when he needed advice in stained glass it was his custom to come to the Glaziers' Company for it. With the skilled technical knowledge of the Glasspainters' Society at its disposal it had a public duty to fulfil in this matter of instruction. Mr. F. O. Salisbury considered the apprenticeship system unquestionably the best, but pointed out the danger of cramping initiative by too long indentures. Mr. R. C. Bayne also said that from his personal experience the apprenticeship system was the only method of training the beginner.

It is anticipated that the British Society of Master Glasspainters will act as a corporate body by the end of the year.

Architects and Competitions

The following memorandum, signed by Messrs. H. V. Lanchester, F.R.I.B.A.; W. G. Wilson, F.R.I.B.A.; and Herbert A. Welch, A.R.I.B.A.; respectively chairman, vice-chairman, and hon. secretary of the R.I.B.A. Competitions Committee, and by Mr. McArthur Butler, secretary of the Society of Architects, has been drawn up for circulation throughout the country. Its purpose is to inform promoters of competitions of the course they must adopt if they wish to secure without delay the co-operation of those who are best qualified to provide designs for the buildings they have in view:

Public bodies and others have of late years frequently had recourse to competitions amongst architects where buildings of a public or otherwise important nature are needed. It is assumed that the motive prompting bodies who promote such competitions is that they are desirous of getting the best design possible for their project. Architects taking part in such competitions are naturally desirous of producing the best possible designs. It will, therefore, be readily seen that the interests are identical.

It not infrequently happens, however, that conditions issued in connection with such competitions are faulty and offer no inducement to architects to compete. When such conditions are brought to the notice of the R.I.B.A. or the Society of Architects, the authorities concerned are at once communicated with and the defective or unsatisfactory clauses in their conditions pointed out. In many cases the authorities concerned (who it has been found have usually drawn up their conditions in ignorance of the Regulations published by the R.I.B.A. and the Society of Architects) are willing to revise their conditions so as to render them satisfactory. In other cases, however, no such desirable results have been arrived at and, in consequence, many competitions have of necessity been banned. When this has occurred sometimes no designs have been submitted and often only a very few designs from architects of little or no standing in the profession.

If the regulations governing such competitions were adopted by all bodies promoting them much vexatious delay would be avoided, and the banning of competitions would be at once rendered unnecessary. Promoters who are considering a public competition in its earliest stages should at once appoint an experienced professional assessor to advise them. He will draw up the conditions regulating the competition, incorporating in such conditions all the essentials needed by the promoters, and he will at the same time be fully conversant with the regulations issued governing architectural competitions, to which he will closely adhere. His advice will also be invaluable to the promoters in arriving at the technical answers to questions, in deciding what is a reasonable cost for the buildings, and finally in judging the best design and the practicability of its being erected for the cost stipulated.

Further, the fact of a good assessor having been appointed has a strong moral effect upon those of his fellow architects who are contemplating the preparation of a design. They would naturally prefer their design to be judged by one who is expert in the subject rather than by a committee of laymen who cannot hope to possess the necessary qualifications in this respect. If the promoters so desire, the President of the R.I.B.A. or the Society of Architects will be pleased to advise them in the nomination of an assessor.

The Royal Institute and the Society of Architects again point out that they have no desire to place a ban upon competition. It cannot, however, be too clearly stated that unless public competitions are promoted in such a manner as will ensure a satisfactory decision and the conditions are in accordance with the regulations issued by these bodies, delays and disappointment will inevitably follow.

Competitions Open

Lockerbie.

War memorial; cost, £2,000. Apply Secretary, R.I.B.A. Closing date, January 31.

Llandudno.

War memorial to cost about £1,200. Apply Mr. A. Conolly, Town Hall. Closing date December 1.

Gateshead.

Cenotaph, in grey granite, to cost about £4,500. Apply Mr. George Gill, West Street, Gateshead. Closing date, December 1.

The R.I.B.A. request their Members and Licentiates not to take part in the above competition because the conditions are not in accordance with the published Regulations of the Royal Institute for Architectural competitions.

Hillhead (New) High School, Glasgow.

New high school for Glasgow Education Authority. Assessor, Sir John J. Burnet, R.S.A., LL.D. Full particulars of this competition were published in our issue of October 6. Closing date, November 15.

Liége.

Monument to commemorate the defence of Belgium against the German invader. One million francs has been subscribed for the project. Apply M. Léon Maréchal, Bureau des Beaux Arts, Hotel de Ville, Liége, Belgium.

Licensed House in a Large Town.

With a view to obtaining suggestions for improving the existing type of public-house, the Court of the Worshipful Company of Brewers offers premiums of £300, £150, and £50 for the best design for a licensed house on a given site. Competitors must be Members or Licentiates R.I.B.A. The President has consented to act as assessor. Apply Secretary, R.I.B.A. Deposit, two guineas, which will be returned to all competitors submitting bona-fide designs. Closing date, January 31.

Competition Award

War Memorial, York.

The design by Mr. Chas. F. Annesley Voysey has been placed first in the competition for a war memorial to the K.O.Y.L.I. to be erected in York Minster. The second premium has been awarded to Mr. T. Frank Green, and the following were bracketed equal: Mr. Wilfrid Bond, Mr. Clement W. Jewitt, Messrs. Leonard Stokes, Drysdale and Aylwin, and Messrs. Whiteing, Reynolds and Hill. The assessors were Messrs. Walter Tapper, H. V. Lanchester, and Robert Atkinson, FF.R.I.B.A.

Coming Events

OCTOBER 29 TO NOVEMBER 13.

Bristol Housing and Home Economy Exhibition and Fair at the I Hall, Old Market Street, Bristol.

NOVEMBER 2 TO NOVEMBER 13.

Civic Survey Exhibition, at R.I.B.A. Galleries. Open to the pu free, from 10 to 5 (Saturday 10 to 1)

TUESDAY, NOVEMBER 9.

South Wales Institute of Archit Western Branch.—"Old Swansea; Houses of Our Ancestors," by Mr. W Jones, 7.30 p.m.

NOVEMBER 10 TO NOVEMBER 17.

Royal Academy of Arts.—Lecture Professor A. P. Laurie, D.Sc., Prof of Chemistry in the Royal Academy. 4 p.m. Wednesday, November Methods of painting as illustrated by nified photographs of the brush wor Romney and Hobbema and other po and landscape painters. Thur November 11.—Modern Pigments: proper Selection and Use. Fr November 12.—Painting Media: Varnishes, and Tempera. Mo November 15.—Methods of Wall Pair Tuesday, November 16.—The Theor Colour and its Application to Pair Wednesday, November 17.—The N and Properties of Building Materials, and old.

THURSDAY, NOVEMBER 11.

Society of Architects.—Special ge meeting, Council elections, 1920-21, presidential address, 8 p.m.

Soldier architects of Manchester holding a dinner on Armistice November 11. Architects, princ assistants and pupils who intend t present should notify Captain J. Gib of 4, St. Mary's Parsonage.

Book Notice

"The Builder's Jewel."

Batty and Thomas Langley did m disseminate a correct knowledg classical proportions and detail in the part of the eighteenth century. Thei guided attempt to reduce Gothic to a of ready-made "orders" is best forg but their "Builder's Jewel, or Youth structor and Workman's Remembra is a production which had a materi beneficial effect upon the developm the classical style, not only in this c but in the Colonies. Copies of the o Langley are becoming increasingly and, when they are found, are usuall dilapidated. Hence Messrs. John T and Co. have done a useful work publishing a selection of the engravi the form of loose plates. These a from the 1746 and 1769 editions, ar brace details of capitals, bases, e tures, doors, windows, arcades, etc reproductions are in "phototype," seems to be rather a variable me some of the plates being wonderfull while others are quite the reverse. case the collection is extraordinary for 4s. 6d.

A Pocket Edition of the "Builder's Jew Supplement by Batty and Thomas Langley Tiranti & Co., Maple Street, Tottenham Cou London, W.1. Price 4/6 net.

HY-RIB USED AS CENTERING.

Another Notable Example

NEW "GLORY PAPER MILLS," WOOBURN GREEN.

Architect, Mr. E. C. P. Monson, F.R.I.B.A., F.S.I.

Interior of the Air Drying House. Shows the arched HY-RIB roof plastered. Very high grade paper will be dried here and the roof is designed to avoid any possibility of "dripping" on the paper. The ascending moisture condenses on the roof and runs down the sides.

Exterior view of Air Drying House under construction. Entirely in reinforced concrete on the Kahn System. Note the wide and continuous window areas.

The HY-RIB in position ready for plastering with cement plaster. The secondary beams, or purlins, are reinforced concrete "Tees" precast on ground and hoisted. On and between these the curved HY-RIB is laid in two layers making a double roof with air space.

These timber arches (centering for main beams) were the only centering used for this fine example of an arched roof. Timber shuttering is entirely obviated with HY-RIB *because HY-RIB is both a centering and reinforcement.*

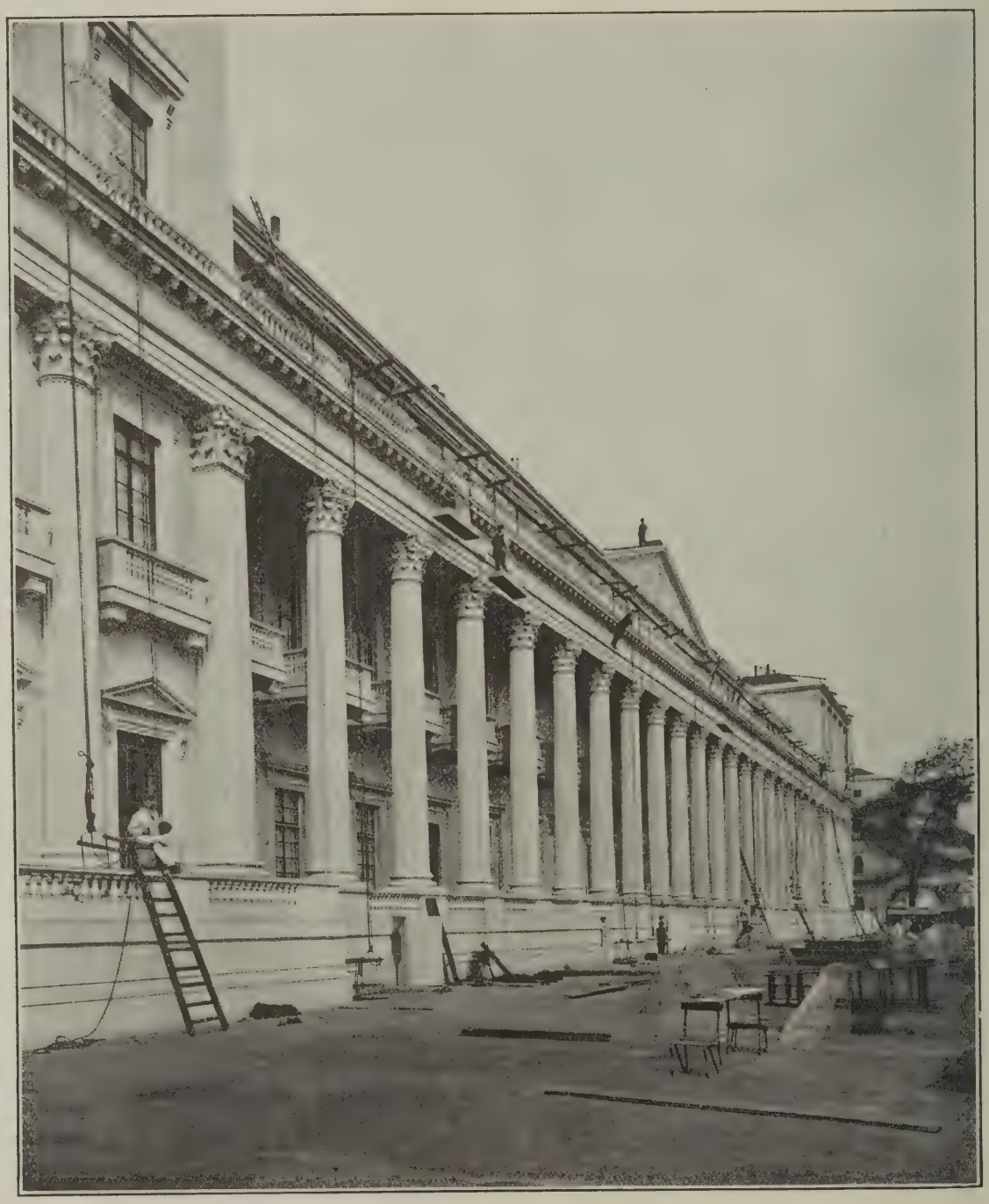
HY-RIB is a steel centering of great rigidity dispensing entirely with close-boarded timber shuttering. HY-RIB also provides reinforcement.

The new HY-RIB HANDBOOK is ready. This is a handsome booklet full of drawings, photos, and practical information. Write to-day for your copy.

THE TRUSSED CONCRETE STEEL CO., LTD.
52, Truscon House, Cranley Gardens, South Kensington, S.W.7

"Nine Elms" Pure Paint

TRADE MARK NINE ELMS BRAND



Portion of Carlton House Terrace, overlooking The Mall.

20 TONS of "Nine Elms" Pure Paint

USED FOR THIS CONTRACT.

T. & W. FARMILOE, Ltd., Rochester Row, Westminster, S W.1.

Telephone: VICTORIA 4480 (5 lines).

The Week's News

100 *Houses for Ammanford.*
he Ammanford U.D.C. contemplate erection of 100 houses.

Glasgow and Direct Labour.
proposal is afoot to erect 264 houses lirect labour.

Chipping Sodbury Housing.
bout £100,000 is being spent on sing by the Chipping Sodbury R.D.C.

Housing at Westhampnett.
xty-six houses are being erected by R.D.C.

Rugby Housing.
wenty-two of the seventy-six houses e been completed.

Housing at Newburn.
he U.D.C. are about to erect 500 es.

Housing at Alford.
lans have been approved by the .C. for the erection of eighteen houses n estimated cost of £16,200.

Arnold Housing.
rnold R.D.C. have decided to apply to Public Works Loan Commissioners a loan of £8,500 for housing.

Romford Housing.
ne R.D.C. have decided to apply to the lic Works Loan Commissioners for ,700 for the erection of houses.

Thirsk Housing Sites.
xteen sites have been chosen with an age of 18,420, providing for the erec- of 140 houses.

Housing at Barnet.
he Ministry of Health have sanc- ed the borrowing by the R.D.C. of 200 for housing.

Housing at Chipping Norton.
ne Public Works Loan Board have ed to lend the T.C. £6,000 for ing.

Houghton Housing Loan.
loan of £60,000 for housing has been ted to the Houghton R.D.C. by the ic Works Loan Commissioners.

Housing at St. Austell.
Austell R.D.C. has received sanction orrow £177,051 for the second instal- t of its housing scheme.

Uttoxeter Housing Scheme.
e first sod has been cut in connection the housing scheme for Uttoxeter. scheme is to provide 180 houses at a of £160,000.

Housing at Burton.
e Housing Commissioner has notified Burton-on-Trent T.C. that not more 303 new houses shall be built in the .

St. Albans War Memorial.
ork has commenced on the war orial cross which is to be erected at lbans from the designs of Sir Edgar ram, Bart.

Housing Schemes in Canada.
er 1,000 new homes will be erected season under the provincial housing me throughout Ontario, and £800,000 be spent in this direction.

Scottish Housing Regulations.
e Public Utility Societies (Sale of ses) Regulations (Scotland) have been d by the Scottish Board of Health r Section 16 (1) of the Housing, Town ning, etc. (Scotland) Act, 1919. es of the Regulations may be obtained, price 2d. net, from H.M. Stationery Office, or purchased through any bookseller.

Women and Housing.
A women's public utility society has been formed to convert old houses into flats for women workers. The aim is to have self-contained flats, varying from one to four or five rooms, at £25 a year per room.

Welshpool Housing Schemes.
Work has commenced on the garden suburb, to be built in Waterloo, and the Ministry of Health has recommended the Public Works Loan Board to advance loans totalling £60,000.

Plympton Housing.
Plympton St. Mary R.D.C. have decided to build twenty-four bungalows and forty houses on the northern portion of the Stone site at Plympton at a cost of £916 and £940 each respectively.

New Reinforced Galleries at Chester.
At Chester new reinforced concrete galleries, three stories high, have been erected from the designs of Mr. W. Beswick, A.R.I.B.A., for Messrs. Brown and Co., Ltd.

Memorial Hall a Luxury Building.
The Ministry of Health has informed the Epsom R.D.C. that the proposed war memorial hall for Banstead would be a luxury building, and that consent to its erection should not be given.

Housing at Thaxted.
The Ministry of Health have sanctioned the borrowing by the Dunmow Council of £12,000 for housing at Thaxted and £4,500 for the erection of houses at Stebbing. The council are about to carry out a drainage scheme for Thaxted.

National Gallery.
Rooms 2 and XXIX. have been re-opened to the public. Room 2 contains works of fifteenth century Venice, Padua, and Verona; while Room XXIX. contains sixteenth century work from Venice, Brescia, and Bergamo.

Housing at Wandsworth.
Forty houses and thirty-seven flats have been completed, and 104 more houses are expected to be ready for occupation by Christmas. The first sod has been cut on the Furzedown Estate, where 400 houses are to be built.

Clydebank Housing.
Plans have been approved by the Board of Health for the erection of seventy-two houses at Whitecrook. Fifty-two of the houses will have three apartments, sixteen four apartments, and four five apartments. One hundred and sixty houses are being erected at Kilbowie Hill.

The Late Sir W. P. Griggs.
Sir William Peter Griggs, of Cranbrook Park, Ilford, Essex, governing director of Messrs. W. P. Griggs and Co., building contractors, M.P. for Ilford since 1918, who died on August 11, aged sixty-seven, left estate of the gross value of £54,065, with net personalty £51,683.

New Glasgow Houses.
Mr. William Reid, architect, Clydebank, Glasgow, is in charge of the erection of terraced cottages now being erected from his plans. The house proper is of timber, supported on a basement of concrete blocks. This wooden superstructure is protected by a special kind of felt, and on a ground of wood-strips is close mesh wire, the surface of which is rough-cast, giving the finished house the appearance of a brick building rough-casted.

Dalton's New Club.
Extensive alterations have been carried out at the Greenside Working Men's Club, Dalton. The new structure is built partly of reinforced concrete, and all the internal accommodation has been re-arranged. The principal feature is the common room, where there is a fine replica of a seventeenth-century fireplace, designed by the architects. A committee-room, billiard-room, two club rooms, concert hall, and baths for the use of members, are also contained. The architects were Messrs. J. H. Hall and Sons.

Inauguration of Prestwich Garden Village.
The Prestwich U.D.C. have inaugurated their Bent Hill housing scheme by the opening of the first of the 320 houses to be erected on "garden village" lines. The houses are of four different types. There will be one main road on the estate, and short avenues running off in cul-de-sacs with the road surface broadened at the top end to allow vehicles to turn. Most of the houses will be in semi-detached pairs with entrances at the side. Altogether the Council intend to build about 600 houses at a cost of £700,000.

Consett Houses.
The first group of semi-detached villas, fourteen in number, erected by the Consett U.D.C. have been opened. The houses are built in pairs, of stone and brick, and each has a living-roo parlour, scullery, and bathroom on the ground floor, with three bedrooms and a w.c. upstairs. The living-room measures 15 ft. by 12 ft.; but the other rooms are smaller. Each house has a small garden, both back and front. The architect was Mr. F. A. Coyle. During the opening ceremony it was stated that building operations for 117 houses on No. 1 site began in February last, forty-eight dwellings being in different stages of construction, and forty roofed in. It was intended to erect 1,045 on the Grove Farm site, upon a portion of the 600 acres which has recently been transferred from the parishes of Knitsley and Healeyfield to the jurisdiction of the Consett Council. Building on this site commenced in July last.

"The Architectural Craftsman's Priceless Heritage."
At a meeting of the Glasgow Royal Technical College Architectural Craftsmen's Society held in the college on October 22, Mr. J. C. Bannatyne, president, in the chair, Professor Charles Gourlay delivered a lecture on "Our Priceless Heritage." After referring to the changed outlook of the craftsman at the present time from that of twenty-five years ago when the Society was started, the lecturer urged the members to hold fast to their principles in the sure hope that the days will return when the former high quality of workmanship will be valued at its true worth. With the object of indicating what a priceless heritage the young architectural craftsman has when he enters upon his life work in the city of Glasgow, a series of beautiful

views of Glasgow's buildings, from the Cathedral onwards to the present day, was shown and commented upon. In conclusion Professor Gourlay recommended the study of architecture by camera, pencil, and pen, so that all may be led to value more highly than ever the architecture—designed with beauty and built in truth—which Glasgow contains, and thus become imbued with the desire to do their part in handing down to posterity that good tradition received from our fathers.

Liverpool University School of Architecture

A new studio at the Liverpool University School of Architecture has been formally opened by the Minister for Education, who, in response to a hearty welcome from the students, delivered an address in which he expressed the opinion that one of the great objects of the next generation should be to rebuild the North of England, or the greater part of it.

Mr. Fisher was conducted through the school by the Vice-Chancellor of the University (Dr. Adami), and by Professor C. H. Reilly.

Afterwards Professor Reilly announced that the students in the School of Architecture numbered 150. With all its shortcomings the new studio, said the professor, gave them better and larger accommodation than they had had formerly. They represented an important school in the University, and they ought to have more professors and a faculty of their own. He hoped that in years to come the Liverpool School of Architecture would be regarded not as merely a teaching institution, but as a school of design, when the method of approaching the problems of architecture would become recognised as "the Liverpool method." If they ever had a faculty of their own they ought to have a large building like the one Lord Leverhulme had offered them. It was not their fault that they had not such a building. The money was there before the war, but it was not there now. He suggested that Mr. Fisher should help the finances of the University to such an extent that the School of Architecture itself would benefit.

Mr. Fisher, amid laughter, assured Professor Reilly that he was not King Midas. "I am," he said, "only one of Lord Rothermere's master spenders. Which reminds me that there are limits imposed by a suspicious public opinion, even upon the most salutary forms of educational expenditure, and from time to time the Minister who is responsible for the education vote in the House of Commons is made conscious that those limits exist." The School of Architecture in Liverpool had made a very good beginning. It had already distinguished itself very greatly in the competitions for the Prix de Rome, and it was by far the biggest architectural department in any of the English universities. The academic development of architectural study was something quite new, and they hoped a great deal would come of the later developments.

The great towns in the North, he said, grew up very haphazard. He conceived it to be one of the great objects of the next generation to rebuild the North of England or the greater part of it—builders always permitting the process to go on—and consequently he looked with very great hope to the School of Architecture in Liverpool.

Trade and Craft

"Installation News."

No. 5 of the new series of "Installation News" is full of interesting and useful information. Among the practical articles is one dealing with the many methods of solving problems arising in the installation of electric light and power in large factories. Another article describes the various investigations carried out in the laboratory and test room to ensure that all materials used in the manufacture of Simplex Conduits are up to high standard. Other interesting features include "about cables," "allurement," "better conduit wiring," and "welfare matters." On the cover is an excellent reproduction of H.M.S. Hood. "Installation News" is edited by Mr. T. Birkett, and published by Messrs. Simplex Conduits, Ltd., of Birmingham.

"Electro-Vapour" Radiators and Central Heating Systems.

Some interesting particulars with regard to combination electric and central heating by steam or hot water have been sent us by Messrs. Benham and Sons, Ltd., of 64-66, Wigmore Street, London, W.1. It is stated that a scheme which works quite satisfactorily is to install a central heating system of such a maximum capacity that when the outside temperature is 32 deg.F. the inside of the building can be steadily maintained at 55 deg.F., while the living rooms can be boosted up electrically to suit the individual taste. Opinion seems to be divided as to whether the average person over or under stokes a boiler in a central heating system, but it does happen sometimes that a boiler is filled up with coal and as much draught as possible is allowed to pass through the furnace. Perhaps the stoker here considers he is labour-saving, and this undoubtedly causes many rooms to be too hot.

Messrs. Benham point out that the result is loss of fuel due to over-stoking a boiler whose capacity need not have been so large when originally installed, and make the following observations: When the weather is very cold and a furnace is on full load, those rooms which are in use can be boosted or topped to the desired amount. The cost of current for raising the temperature a little further is a very different matter from raising it t amount. "Electro-Vapour" radiat handy for supplying this boosting they are not only self-contained identical in appearance with those circulatory system. The low temp heat transmission of these radiat sures economy, since there is ver local heat to waste electrical ene that electric current can be saved use.

An important application of the p elements used in "Electro-V radiators is to individual radiators circulatory system. This is show grammatically in Figure II., in wh element unit is screwed into the the middle section of the radiat extra valve and level indicating ta supplied. The purpose of the extr is to isolate the radiator fro remainder of the system, while th indicating tap adjusts the working level in the radiator. The object application is to render it unneces be dependent entirely upon a ma nace, while it is advantageous to to heat individual rooms at times than between October 1 and May 1

It is quite impossible to manu an effective combined central ho electric radiator, the electrical acting as a booster for the other, any heat generated by the element is merely transferred i whole system via the pipes, so t appreciable heat will be gained electrical source.

Bells and Clocks at Southend Congress.

One of the most interesting exh the Church Congress held at South that of Messrs. Gillett and John Croydon, makers of church and clocks, bells, and carillons. Princ terest centred in the chime of eig which was played at intervals by a clavier, their beauty of tone bein admired by visitors. The official the exhibition was given by a tow which chimed the quarters and str hours on the chime of bells. Thi clock was specially erected for t pose and had four 6-ft. dials. So specimens of grandfather and clocks were also shown.

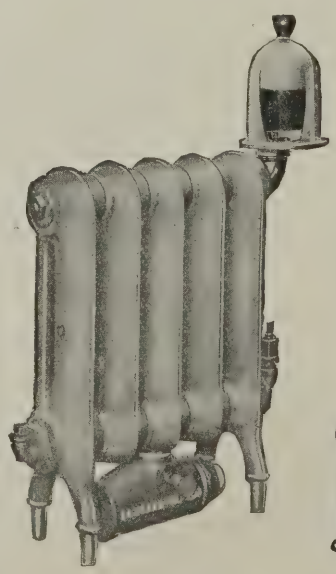


Fig. I.—Standard type of "Electro-Vapour" radiator with food heater.

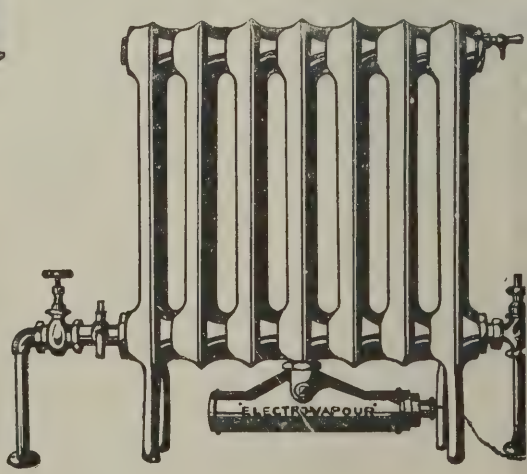


Fig. II.—Side view of combined hot water and electric radiator.

RUBEROID ROOFING

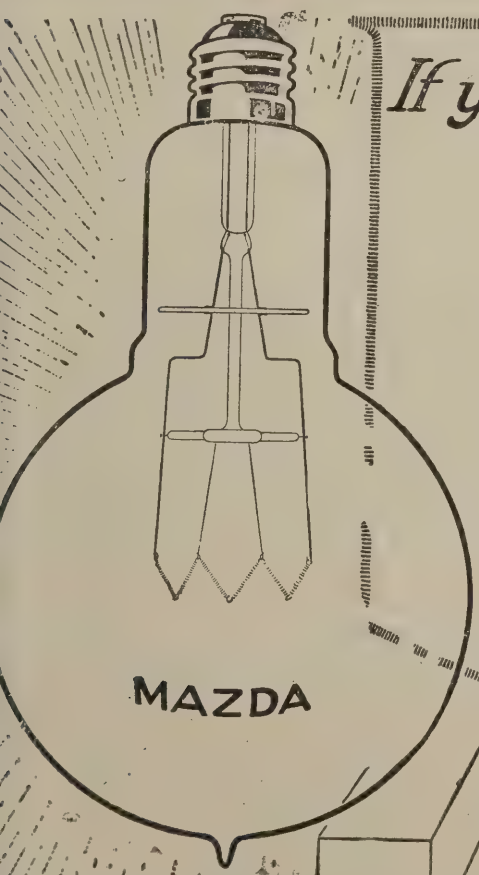
THE WEST PIER PAVILION, BRIGHTON,

entirely roofed with Ruberoid in 1916, forms an excellent example of the efficiency of Ruberoid for buildings in exposed positions, or subjected to exceptional vibration. It is scarcely possible to test a roofing under more drastic conditions. After standing the heat of four summers and the storms of four winters, the roof is as sound as when first fixed, and for many years to come can be relied upon to remain proof against all weather. Ruberoid is unaffected by sea-air, spray, acids or alkalies. It can be used on flat, pitched or curved roofs, and laid on boards or concrete.

Our Catalogue contains illustrations of some of the many types of buildings roofed with Ruberoid during the past 29 years. It will be sent free with samples on request.

THE RUBEROID CO., Ltd., 1, Waterloo House, 81-83, Knightrider St., E.C.4

Branches: Newcastle-on-Tyne, Birmingham. *Branches: Leith, Dublin.*



If you bought light by the yard

there would be very little inefficient lighting, because its value could be so easily computed. You do not, however, buy light at all; you buy lamps and electricity, which together produce light. The more efficient the lamp the larger the proportion of current transformed into light. Mazda Gasfilled lamps have a higher efficiency than any previous incandescent electric lamp, and by using them you obtain the greatest possible amount of light in exchange for your money.

MAZDA
Gasfilled
ELECTRIC LAMPS
(HALF-WATT TYPE)
Made in Rugby

The **British Thomson-Houston Co. Ltd.**
Mazda House 77 Upper Thames Street London, E.C.4.
Works: Rugby. Branches in all large towns

1329A.

CONTENTS.

Edited by PROFESSOR A. E. RICHARDSON, F.R.I.B.A.

Notes and Comments: The President's Optimism; L.C.C. as Humanising Agency; The Height of Rooms, 505. Roads and Town Development; The Federation and the Government; An Exhibition of Walcot Etchings... 506

The Week's News 507, 529

Architectural Causerie: Smeaton and James. By Aero 508

The Civic Survey Exhibition ... 509

Housing Progress: Latest Figures... 513

The Case for Modern Architecture. By John W. Simpson, P.R.I.B.A., Membre Correspondant de l'Institut de France 514

The London Society's Development Plan 518

Payment by Results and for "Wet Time." Views of the National Federation 523

Correspondence 524

Architects' Assistants Visit Liverpool Cathedral 524

Adding a Storey to the Prudential Building 527

Publications Received 528

London Master Builders' Annual Dinner 528

Enquiries Answered 528

Coming Events 529

Competition News 530

Current Prices of Materials ... xix, xx

Electrical Notes xxii

Complete List of Contracts Open xxiv, xxvi

ILLUSTRATIONS:

Sir John Soane 503

War Memorials. 5.—K.O.Y.L.I. Memorial, York Minster. Winning Design. Chas. F. Annesley Voysey, Architect ... 504

The Late Mr. J. D. Butler, F.R.I.B.A. 507

Civic Surveys of Greater London: Public Open Spaces, 509. District Parishes and Wards in 1916, 510. Private Open Spaces 513

Italian Villas. 1.—Two Minor Examples from Scheult ... 511

St. Michael's Terrace, Stoke Damarel; Principal Front. John Foulston, Architect ...

Early Nineteenth-century Architecture. 11. — Slate-hung Façades in Devonshire ...

Town Planning. 5.—The London Society's Development Plan for Greater London 52

Board Room in Business Premises, Old Broad Street, London, E.C. C. H. B. Quennell, F.R.I.B.A., Architect ... ...

Current Architecture. 48.—Board-room in Business Premises, Old Broad Street, London, E.C. C. H. B. Quennell F.R.I.B.A., Architect ..

A Room in the New Storey added to the Prudential Company's Premises, Holborn Bars, London ... ...

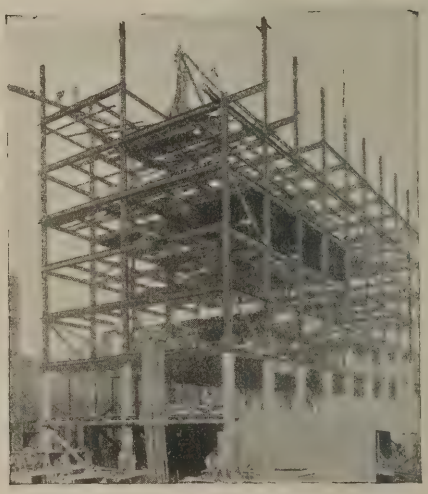
The Alexander Thomson Travelling Studentship. Plan of Site for a Temple of Memory ... ...

DAWNAY DEFINITIONS—3.

CONFIDENCE.

CONFIDENCE is the basis of all successful enterprise. To be able to count on material being right, and the service being progressive is half the battle. As we can guarantee this, the moral of this announcement is obvious. Send us your enquiries for constructional material.

Stocks of
British Standard Sections in Joists, Channels, Angles, Tees, Flats, etc.



ARCHIBALD D. DAWNA

AND SONS, Limited.

Telephones: Battersea, 1094. (3 lines).

Steelworks Road, Battersea, S.W.11

Telegrams: "Dawnay, Battsc London."

Telephone: Cardiff, 2557.

And at East Moors, Cardiff.

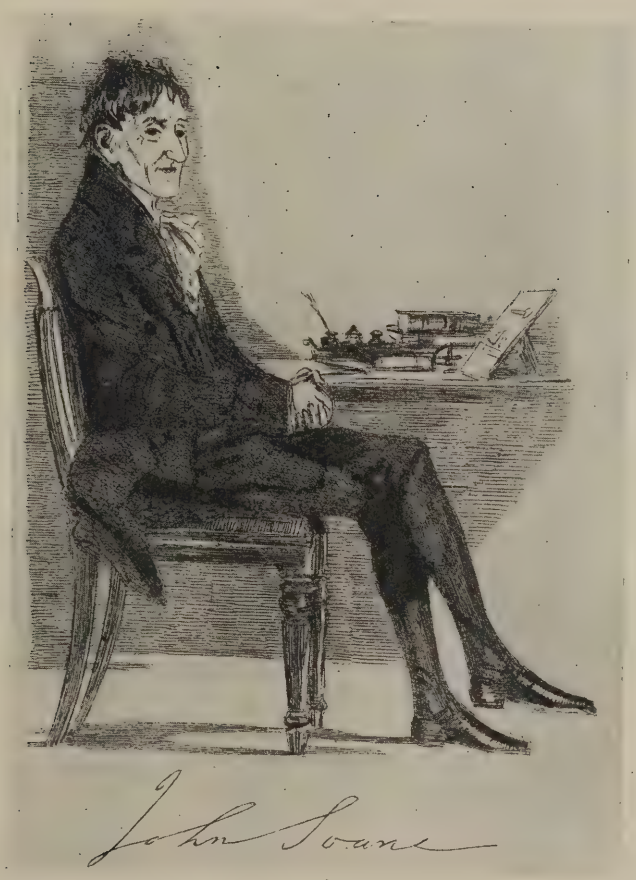
Telegrams: "Dawnay, Card

nesday, November 10, 1920

Volume LII. No. 1349

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

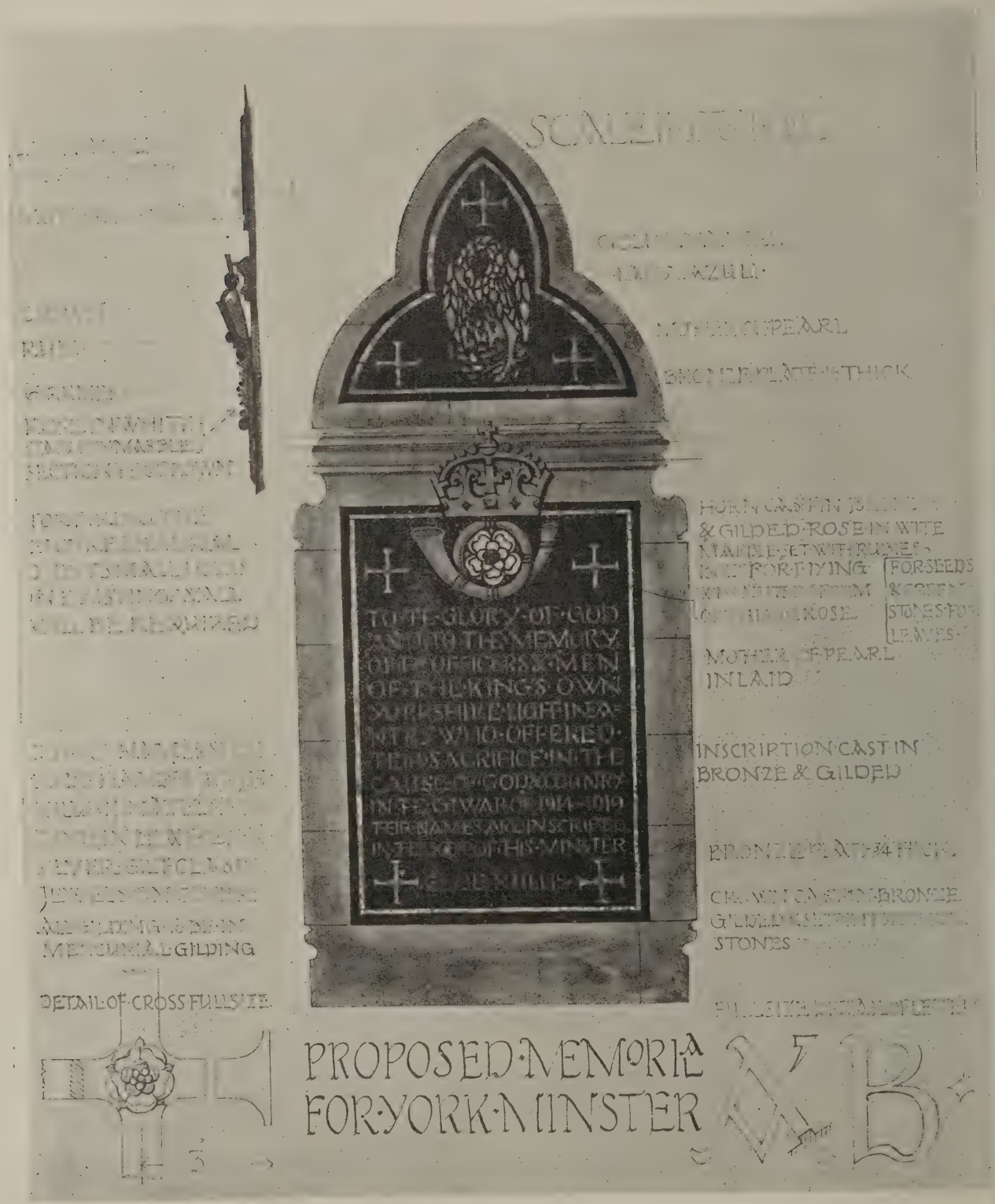


Sir John Soane (1753-1837) founder of the Soane Museum, and a protagonist of the Classic Revival, was born at Whitchurch, near Reading, the son of a mason. His real name was Swan, but he changed it first to Soan and then to Soane. Early in life he served as an errand boy to John Dance, who, observing his artistic talent, took him into his office, and afterwards transferred him to that of Henry Holland. He carried out a great quantity of work, much of which has now disappeared; but his fame rests mainly on the reconstruction of the Bank of England. Our illustration is from a caricature in the "Maclise Portrait Gallery."

27-29 Tothill Street, Westminster, S.W.1.

War Memorials. 5.—K.O.Y.L.I. Memorial, York Minster: Winning Desig

Chas. F. Annesley Voysey, Architect.



The above design has been awarded first place in the recent competition for a memorial to the members of the K.O.Y.L.I. who fell in the war. The design should accord well—certainly unobtrusively—with the Early English arcade of York Minster in one of whose bays it is proposed to be built. The lettering is good of its kind, but the purist may legitimately object to the joining together of such letters as T and H. An exhibition of the designs submitted is now being held at the premises of the Society of Architects in Bedford Square. The assessors were Messrs. Walter Tapper, H. V. Lanchester, and Robert Atkinson, FF.R.I.B.A.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

ednesday, November 10, 1920 Volume LII. No. 1349

Notes and Comments

The President's Optimism

SOME revelation of progress, or some adumbration of policy by the President of the Institute on the occasion of his new sessional address may have been eagerly anticipated by a few impatient ıls; who, however, will have had only themselves to ınk for the disappointment to which they were foreomed. They might have reflected—only reflection is a marked characteristic of their peculiar temperant—that Mr. John W. Simpson is too astute a statesn to make premature disclosures. Fortunately, the ce of his literary gift, and the dexterity with which he handle æsthetic abstractions, enabled him to substie for contentious topics a delightful and wholly ocuous interlude. Instead of some more or less excit and probably premature and therefore indiscreet nouncement on practical politics, we were fain to give selves up to the serene enjoyment of a blandly demic address that was sufficiently discursive and losophical to have pleased Carlyle's Professor of ings in General. Moreover, it was as fascinating as vas innocuous. It was backed with old truths refurned until occasionally they glittered like epigrams—"It is not given us to see ahead—we can only range course by the upstanding stones behind us," and he present is too near our eyes for us to read what is tten." Then there was an occasional touch of acity, as in the demi-semi-paradox that the great erpendicular windows of York, Beverley, and Glouces-offer fertile suggestions for steel-frame treatment." It delightful way of startling the indolent into closer ective examination, and hence awakening keener ception of the essential unities and correlations of art. ain, amidst all the current vacillation of "hopes and s for art," it is heartening to see the President ving the prevalent pessimism, and declaring roundly "architecture in this country is by no means decadent , on the contrary, healthy, vigorous, and true to the ortal principles of our art." Seeing what rocks are ad, the President was wise in seizing his opportunity delivering so literary and philosophical and nonmical an address, and it cannot be denied that he was emely happy in the use he made of the occasion. iously his exhortation, "Lift up your hearts, take age!" has other applications than that of deriving and inspiration from our native architecture of to-day. advice holds good for more material issues. Whatver may betide, the President's joyous habit of onalising optimism is an invaluable asset to the itute and the Profession.

L.C.C. as Humanising Agency

hen the idea of forming the London County Council conceived, there were elements of nobility in the me. There was an enlightened attempt to create orate feeling, to instil a larger view of the rights, obligations, and pleasures of citizenship. The Council was to be no merely perfunctory body, with duties that were mainly prohibitive and nearly always unpleasant. It must be very different in character from the old Metropolitan Board of Works, on whose ruins it was reared. That unhappy institution perished simply because it was sordid beyond redemption. To reconcile a case-hardened public to the new régime, it was necessary to show evidences of a clean heart and a humane spirit. The amenities were cultivated. Old parks no longer suffered from the neglect that had made them dreary wastes; new parks were formed; cottages of commendable design and irreproachable sanitation were built; streets were named after the notabilities that had lived in or near them; tablets to their memory were placed on the houses in which they had dwelt; the Council ran tramways and steamboats. It started a civic survey, and collected photographs of notable buildings. Its humanising activities were many and diverse. That it has not altogether forsaken the amenities is evident from its production, at the hands of its Clerk and its Architect, of an excellent report on the threatened churches in the City of London. When the Commission appointed by the Bishop of London recommended the union of all the parishes in the City of London, except the parish of St. Andrew's, Holborn, into four great parishes, the L.C.C. Local Government, Records, and Museums Committee instructed the Clerk and the Architect to report on the historical and architectural interest of the churches in question. Their respective reports have been fused into one, and a most interesting booklet is the result. On Mr. Bird has evidently fallen the mantle of his predecessor, Sir Laurence Gomme, F.S.A., while the Architect of the Council, Mr. G. Topham Forrest, F.R.I.B.A., happens to have devoted much study to church architecture. Between them they have produced a valuable book, which adds substantially to the credit of the Council on its less sordidly utilitarian side.

The Height of Rooms

It has a lean and hungry look that sanctioning of eight feet as the minimum height of rooms. It is as if the Minister of Health were hard pressed, and had been driven to this expedient, protesting the while, "my poverty and not my will consents." What the Minister of Health thinks of the Housing Minister with regard to this point is probably pretty much the same in spirit as what Dr. Jekyll thought of the conduct of Mr. Hyde. How the London County Council regards this duality—one does not like to say duplicity, for we are quite sure that the Minister of Health means well—has been left unexpressed, save by a tone of the voice and a shrug of the shoulders; the Rev. Dr. Scott Lidgett saying that "the Council were placed in a difficulty by the Ministry of Health," and Mr. Gatti remarking that "the change in the height of the rooms was contrary to the London Building Act, but as the

Minister of Health had decided to make the change the Council must leave with the Minister the responsibility of sanctioning it." Responsibility, however, cannot be thrown off in this light-hearted way. If the Council has reason to suppose that the Ministry is unwise in consenting to the reduction by six inches of the minimum height of rooms, it is in duty bound to enter a strong protest to that effect. That it has not done it, but has preferred the much easier course of accepting the situation and of throwing the responsibility on the Ministry of Health, is significant of the grave extent to which bureaucracy is weakening the public character. Before a State department, overriding the London Building Act, the metropolitan authority grows limp in the backbone and shaky at the knees. It should have demanded an exhaustive inquiry into the matter. Dr. Addison's *ipse dixit* is not enough. Only after careful inquiry could it have been decided by the framers of the London Building Act that 8 ft. 6 in. was the minimum height for a living room. What justification is there for reducing the height? On what ascertainments is the reduction based? If there is no answer to these questions, and if it cannot be proved to demonstration that no risk is involved, that money is not being saved at a certain lowering of a hygienic standard, then the Ministry of Health is mocking its name and abrogating its chief function. If, on the other hand, data are forthcoming to prove that the lower height may be adopted without the slightest danger to the public health—and we are fully entitled to insist on that guarantee—then it becomes only too clear that ever since the clause in the London Building Act was passed fixing the height of rooms at 8 ft. 6 in., countless thousands of pounds must have been wasted on a needless precaution, and our faith in the wisdom of our rulers, including, by unavoidable inference, the Ministry of Health, is seriously compromised. If 8 ft. minimum is sufficient, we have been misled and defrauded by those who demanded 8 ft. 6 in. If, on the other hand, the 8 ft. minimum is a danger to health, the Minister or the local authority consenting to it cannot be held guiltless of astounding folly. In any event, the one regulation destroys the other, and incidentally discredits bureaucracy. Further, it cannot be overlooked that this is not the only question at issue. The moral and æsthetic effects of lowering the height of a room are certainly worth more consideration than they have received. There is no surer way of making a room look mean than by giving it a low ceiling; and the denizens react to their environment with astonishing facility. A mean room implies mean inhabitants—unhealthy in mind, therefore, even though the loss of those six inches may have no appreciable effect on their bodily health.

Roads and Town Development

Flank movements win most battles. It seems likely that town development, the provision of arterial roads, and the onset of land-law reform will utimately be effectuated as side issues. Unemployment and military and housing exigencies will quickly procure us road reforms which we might have gone on everlastingly advocating in vain as a mere matter of convenience and common-sense. Unemployment having reached a pitch that has alarmed Mr. Lloyd George into calling a special Cabinet Committee to deal with it, and road-making being apparently the one recourse, a Bill is being prepared "to shorten and simplify the procedure at present in existence for the acquisition of land for the construction of new roads in order to provide work for the unemployed." It is intended to adopt the provisions now applicable to the acquisition of land for housing. It was ever thus. Academic advocacy simply clears the way for some dynamic force, some imperious need that brooks no denial. There arises now an opportunity for co-ordinating these several conditions in a broad and statesr like way. Would that Sir Eric Geddes were a H mann, or even a Colbert, with the vision to see cle and the courage to plan heroically and the wisdom t it well! The R.I.B.A. exhibition of town-developr diagrams, from which we reproduce this week a double-page plate the gigantic Greater London deve ment map prepared for the London Society under supervision of Professor Richardson, F.R.I.B.A., the whole subject in the clearest possible light, sho what are the needs and how they may be met. The no longer the slightest excuse for regarding roadma as useless "relief-work"—a mere subterfuge for do out money to the unemployed. For, as Mr. J. A. Br said last week in his inaugural speech as president o Institution of Civil Engineers, a very thorough re struction and organisation of the road system is on the most urgent problems of our time. It is, or shoulc most intimately bound up with the question of hous and Mr. Brodie is fully warranted in his judgment "the recent policy of hurriedly erecting large num of cottages for the working classes is likely to super more orderly planning, and to spoil the effect of w roads where these had been adopted." As it is height of folly to treat land acquisition, housing, t development, and arterial roadmaking, to say not of unemployment, as if they were independent iss whereas they are inseparably bound together, or at are reciprocally influential, we trust that they wil treated in the broadly comprehensive manner that inter-relationship demands. To deal with them he tingly and piecemeal is worse than useless. It is high degree mischievous.

The Federation and the Governm

The attitude of the organised building tr employers on the crucial labour problems affecting industry was indicated clearly at the special meetin the National Federation, reported on page 523 o present issue. The meeting protested against the f four hours week, requested its Administrative Comm to formulate a scheme providing for the employme ex-Service men and for paying a bonus on output, resolved to send to the Cabinet a strong protest ag the Ministry of Health's "wet-time" propo Although, throughout the debate, the fighting spirit a little too obvious, the ultimate resolution on Government proposals was reasonable and concili in tone, especially in its last paragraph, in which declared that the Federation will gladly confer wit operatives on the questions at issue. While we do think that these wet-time proposals, as proposed b Government, are sound either ethically or economic we feel that the subject should be debated thoroughly between employers and employed. If can arrive at an equitable agreement on this and o other matters needing settlement, they will then be position to make a united and therefore an irresis demand that the Government shall leave the ind entirely free to manage its own affairs. Failing consummation, its troubles will go from bad to w They have been mainly occasioned by Government i ference in the domestic affairs of the industry, an mischief will continue as long as the meddlesomenes

An Exhibition of Walcot Etchin

We are glad to note the appreciation and enjoyme the Walcot etchings expressed by visitors to the Re Room at 29, Tothill Street. Architects and archite students are taking full advantage of the courtesy c artist in having so generously placed a collection c finest work on view for their benefit, and we hope they will continue to avail themselves of the opport thus afforded.

The Week's News

ew County Offices for Leicestershire

Grey Friars, the foundation-stone has been laid of ew county buildings for the Leicestershire County cil. The architect is Mr. W. Keay and the builders rs. Haskard, Rudkin, and Company.

Death of Mr. W. Bradshaw

e regret to announce the death of Mr. W. Bradshaw, tary of the National Federation of Building Trades atives. Mr. Bradshaw was a well-known figure to ers in the Labour and Socialist movements.

Regent Street Rebuilding Schemes

building schemes to be carried out in Regent Street, lon, in the future include Swan and Edgars, on the dilly Corner site, which will probably be com- ed next June, and within the next year or two rs. Libertys' premises.

Sutton War Memorial

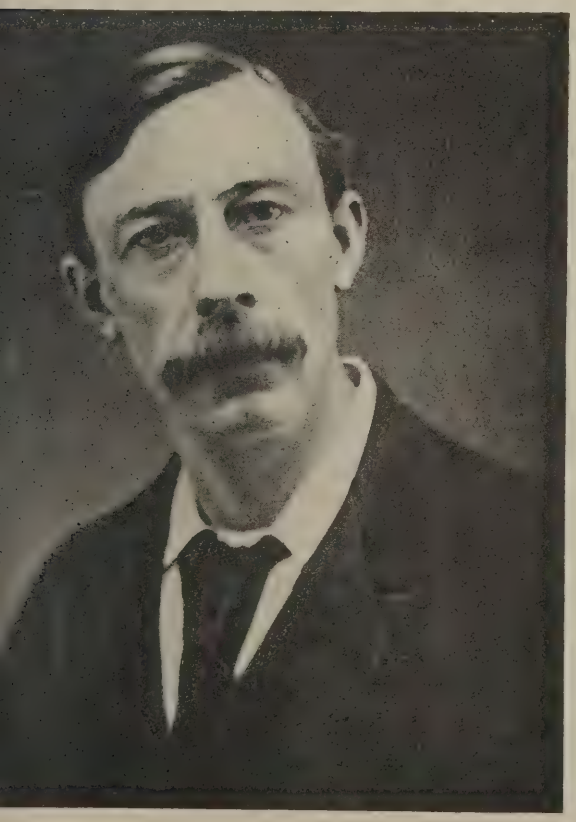
tton war memorial is to consist of four and a half of ground, to be presented to the town as an open ; a monument in the form of a long stone shaft, a base on which the names of the fallen will be ved in metal, and an extension of the hospital.

The "Adoption" of Arras

er £6,000 has been raised by the Newcastle City cil for the adoption of Arras. Sir William Ingram, , has offered to restore to Arras through New- valuable oak carvings from the Convent of ines.

Leicester War Memorial

a public meeting held at Leicester it was ed to erect in Victoria Park a war memorial to the n of Sir Edwin L. Lutyens, R.A., F.R.I.B.A. The n for the memorial will take the form of the planting of avenues of lime trees in the plan of a cathedral church, with a cenotaph at the west end in the same form as the one erected in London.



THE LATE MR. J. D. BUTLER, F.R.I.B.A.

London Property Sale

Property comprising nearly 3,000 houses and covering an area of 210 acres in North-East London has just been placed on the market. The estate is divided roughly into three main blocks—property around Stamford Hill; Upper Clapton, extending as far as the River Lee; and Shacklewell, a district lying between the Stoke Newington Road and Hackney Downs. It is expected to realise about £1,000,000.

Banwell Abbey

Banwell Abbey, a Somerset residential property, with a private chapel and 16½ acres of grounds, which has been placed on the market, has records dating back to the days of King Alfred, who bestowed it on Asser, his favourite and biographer. In one of the Danish raids the original monastery was destroyed, and was rebuilt only to fall into decay. Bishop Beckington, in the fifteenth century, built an Episcopal Palace on the site of the monastery, and from its remains, and about 200 years ago, the Palace was converted into the present dwelling.

Materials for Housing

A meeting of representatives of the larger Scottish local authorities has been held in Edinburgh to consider the shortage of building material for housing schemes. The meeting resolved that there had been a wholly inadequate supply of the requisite building materials to permit of house building proceeding expeditiously, and that the present arrangements had entirely failed; that the State should in consequence be required to make such arrangements as would secure (1) that house building would have prior claim upon the building material of the country, and (2) that adequate methods of control, including prices and development of manufactures, and the distribution and transport of these, be forthwith introduced to secure the requisite additional supplies. It was resolved that the time limit of three years within which housing schemes must be completed to earn the Government subsidy was quite inadequate, and that a request be made to the Government to extend the time limit for five years, and to refer to the Tribunal appointed under the Regulations all questions with respect to a further extension.

Death of Mr. J. D. Butler, F.R.I.B.A.

We regret to announce the death, in his sixtieth year, after a brief illness, of Mr. John Dixon Butler, F.R.I.B.A., architect and surveyor to the Metropolitan Police and Police Courts. After about fifteen years in general practice, during part of which time he acted as surveyor to the Metropolitan and City Police Orphanage, Mr. Butler was appointed architect and surveyor to the Metropolitan Police in October, 1895, and completed twenty-five years' tenure of this post two days before his death. He was elected F.R.I.B.A. in 1906. During his career Mr. Butler was responsible for the design and erection of upwards of 200 police buildings, including police courts, police stations, blocks of flats for married officers and section houses for the accommodation of single officers, and in every type of building he introduced a large number of improvements. Among his larger works may be specially mentioned the new Police Courts at Great Marlborough Street, Old Street, Tower Bridge, Clerkenwell, Greenwich, Woolwich, and the reconstruction of those at Westminster. The rebuilding of Thames Police Court, for which he had prepared designs, is now about to be taken in hand.

(*News Continued on Page* 529.)

Architectural Causerie: Smeaton and Jam

SOME time since, when discussing the value to posterity of architects signing their buildings, little did it occur to me that a few weeks later I should hap upon the signature of a famous architect-engineer on the keystone of a diminutive bridge of three arches across a small stream. This interesting inscription is to be found at Cardington, in Bedfordshire. It is part of the creed of the architect who has vision to look a little way beyond the edge of his draught-board. Hence it is that a study of domestic work cannot have any pretensions to completeness without a survey of towns and villages; and in pursuit of such pleasant though practical diversions one often chances upon the unexpected.

* * *

Motoring through Cardington a week or two ago, I was attracted by the parapet and curtail ends of a small bridge. On inspection I found the three keystones to bear respectively the following data. The first, S. Green, surveyor; the middle one, S. W. (Samuel Whitbread); and the third, J. Smeaton, Eng., 1778. In addition, the bridge had a style about it foreign to any other eighteenth-century bridge in the district; and so, from a contemplation of its lines, I fell to ruminating on the career of the famous engineer, who drew the plan in the fifty-fourth year of his age. So the man who was regarded in the late eighteenth century to be the father of the new profession of civil engineering actually accepted the invitation of that lover of architecture, Samuel Whitbread the elder, to stay at Cardington for a few days, inspect the site, and direct operations.

* * *

Smeaton first saw the light in 1724, and during his youth interested himself in all objects of mechanical interest; but at the age of eighteen, obeying the behest of his father, he travelled from Austhorpe, in Yorkshire, to study the law in one of the London Inns of Court. Eight years later we find him freed from the trammels of the law, having set up in business on his own account as a mathematical instrument maker; and, strange to say, nine years from this period—to be precise, in 1759—he is preparing his plans for the Eddystone. Subsequently we find him competing with Mylne and others for the design and construction of Blackfriars Bridge. Nothing daunted by his lack of success in this competition (he was, however, one of the eleven selected from the crowd), he designed the bridge at Coldstream across the Tweed, and also the bridge at Perth over the Tay. Betweenwhiles he looked after the Greenwich Hospital estates, which from all accounts he greatly improved. John Smeaton had by this time made his reputation as an engineer. Small wonder, then, that he was called upon to design the bridge at Hexham over the Tyne; and, almost at the same time, was commissioned to erect the lighthouses at Spurn Head, on the Humber.

* * *

John Smeaton was busily engaged travelling from one end of the country to the other during his latter years. We find him building the small harbour and lighthouse at St. Ives, in Cornwall, and then hurrying off to Thanet to superintend the old portion of Ramsgate Harbour, which Rennie improved. By the way, the Dock House, and the steps known as Jacob's Ladder near by, are the work of John Shaw, the architect responsible for St. Dunstan's in Fleet Street. Samuel Whitbread, the politician and brilliant son of the founder of the famous brewery, deserves notice as a patron of the arts. He took great and unflagging interest in the improvement of his property in Bedfordshire, particularly Cardington and Southill. He became closely attached to Fox and Sheridan, and engaged the services of Holland to d Southill in 1795, and a very fine house it is, in spite c modern plate-glass to the windows. It was this p who, in 1788, as a young man of twenty, entert John Smeaton and engaged his skill for the bridge tofore mentioned. In those days the responsibilit the patron were manifold. It must not be forgotte Samuel Whitbread had a great interest in the rebu of Drury Lane Theatre after 1809, when Ben Wyatt left it much as it is to-day. Amusing refere this association will be found in the "Re Addresses"—especially, if I remember rightly, i delightfully characteristic speech which Horace James Smith attributed to Cobbett.

* * *

Referring once again to the value of signature authentic records of architects' labours, particula connection with domestic work, I have something t regarding the famous John James, of Greenwich, succeeded Hawksmoor as Clerk of the Works at C wich in 1705, becoming surveyor to the Hospital t years later—a post he held under Wren, Vanb Campbell, and Ripley, until shortly before his de 1746. Sir Reginald Blomfield, writing of James a capacity as a builder of houses, states: "Of his do architecture the only known examples are a hou Twickenham, illustrated by Campbell, and a large near Blackheath, built for Sir Gregory Page in 172 destroyed 1787." This statement is not strictly rate. James built a very large house named Warl near Eversley, for his own enjoyment, as is state mural tablet in Eversley Church. He also r Eversley Church, incorporating the Gothic chance the severe yet simple classic of his own fashioning.

* * *

James was a man of parts, and, indeed, of co able ability as a writer on architecture. He tra into English Perrault's Treatise of the five ord columns (1708) and, later, Pozzo's "Rules and Ex of Perspective Proper for Painters and Archi These works were followed by a translation fro Blond, "The Theory and Practice of Gardening." 1716 James was appointed assistant to comple Paul's under Sir Christopher Wren, and in the sam succeeded Gibbs as Surveyor to the Commission the building of the fifty new churches, an office h him for twenty-one years. In 1725 James was app surveyor to Westminster Abbey. The mural ta the aisle of Eversley Church records all this, and is of more importance, directs attention to the neig ing mansion of Warbrook. With these various a ments in mind, as well as the fact that James b George's, Hanover Square; the steeple of St. Al Greenwich; the belfry stage of the tower of St. garet's, Westminster, and was associated with others works of more or less importance, it is c that the architect had, in 1727, attained to a p that enabled him to embark on the designs of a m for his own use. James died in 1746, and was bu a vault in the churchyard at Eversley.

* * *

Warbrook is essentially a piece of architect's ar ture, and one, moreover, exhibiting strong incli externally towards contemporary Dutch mode stands on flat land outside Eversley Village, surr by an estate of a hundred acres. James's will that his property at Eversley, near Southampton land adjoining it, and a house at Croom's Hill, wich, be sold for the benefit of his widow Mary.

The Civic Survey Exhibition

N January, 1915, the Professional Classes Sub-Committee of the Government Committee for the Prevention of Distress submitted to the Board of Education a scheme which had been prepared by Architects' War Committee, in conjunction with er bodies. This had been drafted with a view to nploying, in a manner calculated to be of great service the community, the energies of professional men who e lost their work owing to the war." They suggested t this end could best be attained by the organisation various centres of the kingdom of a series of civic veys.

According to the Sub-Committee's definition, civic vey work consists in "collecting and recording in an ily accessible manner, such data in respect of any city nhabited area as are required in order to attain a come knowledge of the whole of those interests upon the servation or enhancement of which depends the fare of the inhabitants." In the R.I.B.A. "Journal" April, 1916, Mr. C. Harrison Townsend, F.R.I.B.A. sistant Director, Civic Survey of Greater London), lained that these facts and data cover the whole und of a city's life and activities—its methods of ernance, its manufacturing and residential conditions, its work and recreation, its health generally and diseases, its traffic, and its climatic conditions, and it is a record of such that constitutes a civic survey.

Continuing, he says: "The method by which this collected information can best be set forth is, without doubt, by means of diagrams. It is a commonplace that all statistics and figures 'leap to the eye,' and inform the inquirer far more rapidly in diagrammatic form than when presented in page after page of wearisome columns of figures." He emphasises that it does not offer suggestions as to the development of any particular district, nor does it indicate schemes of amelioration of existing social conditions, nor does it dwell on things of the past and indulge in dreams of the future, but its work is to present the facts of to-day in such a shape as to be of the utmost assistance to the student of the city as it is.

Mr. H. V. Lanchester, F.R.I.B.A., pointed out that the moment (it was April, 1915) offered exceptional opportunities for enlisting the services of those peculiarly qualified for such an undertaking, and so the great civic survey scheme was born.

The diagrams now on exhibition at the R.I.B.A. Galleries are of Greater London, districts in South-east Lancashire, South Yorks, and Liverpool, while

D

there are also included the Madras (India) survey, the Rangoon (India) survey, the interesting Marylebone Plans (lent by Mr. Arthur Ashbridge), and a very carefully-made scale model of Barnet (Herts). The London Society's "Development Plan of Greater London of the Future" (prepared under the direction of Professor Richardson) is also included in the exhibits.

It should be mentioned that Mr. H. V. Lanchester was the director of the London area, Professor Abercrombie for S.E. Lancashire, and Mr. H. S. Chorley for South Yorkshire.

One of the Manchester maps includes an area round Manchester extending as far as Ramsbottom, Altrincham, Stalybridge, and Leigh, and indicates areas built on and open spaces. Another shows the main lines of traffic, and presents Manchester in the form of an octopus spreading its tentacles in all directions and laying hold of smaller centres, such as Oldham and Bolton.

The Liverpool map, in which the density of the population is indicated, shows very clearly the fact that the greater the population of a district the smaller the proportion of open spaces—a defect in planning which will be found even more accentuated in the London maps.

The Madras and Rangoon Surveys show how largely the problem of native quarters adds to the other complications in the East.

The interesting collection of old plans of the Mary bone district of London includes a plan of Jo Nash (1812) for the development of building plots Regent's Park, and several plans of the new road fr Paddington to Islington—now Marylebone and Eus Roads.

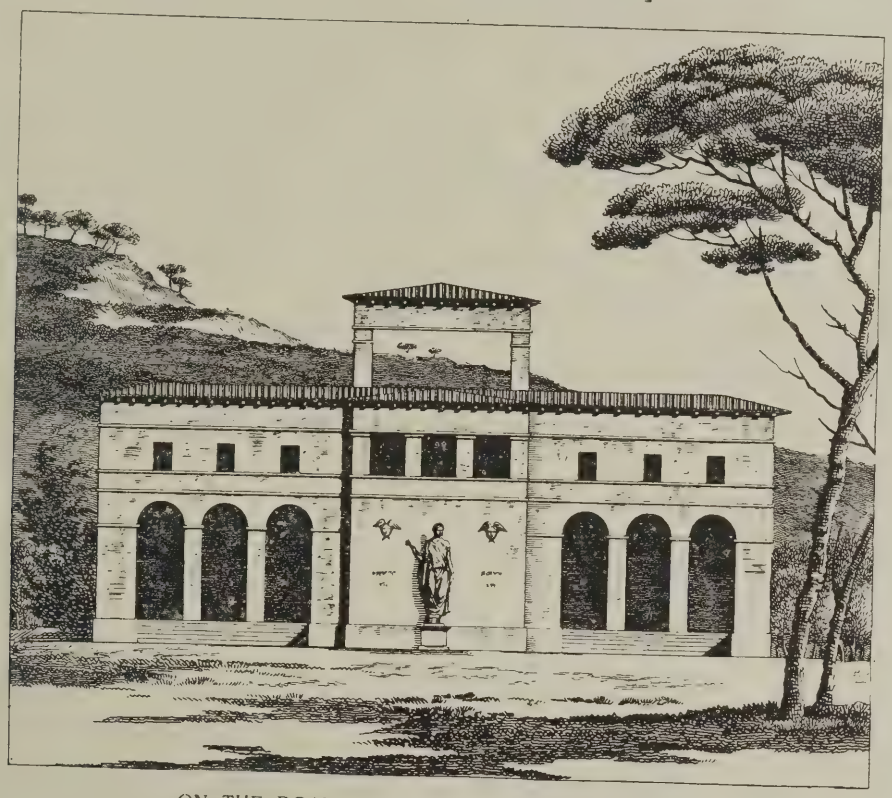
The diagrams of the Greater London Survey co Recreation (showing Public and Private Open Spac Golf Links, Swimming Baths, etc.); Surface Util tion; Licensed Houses; Physical; Boundaries; Popu tion; Vital Statistics (Birth Rate, Infant Death Ra Death Rate, Zymotic Diseases, Pulmonary Diseas etc.); Local Administration (County Courts, Licens Areas, Police Divisions, Hospitals, etc.); Electric Gas, and Water; Traffic.

We suggest that maps showing the industrial a and purely residential areas would also be of use.

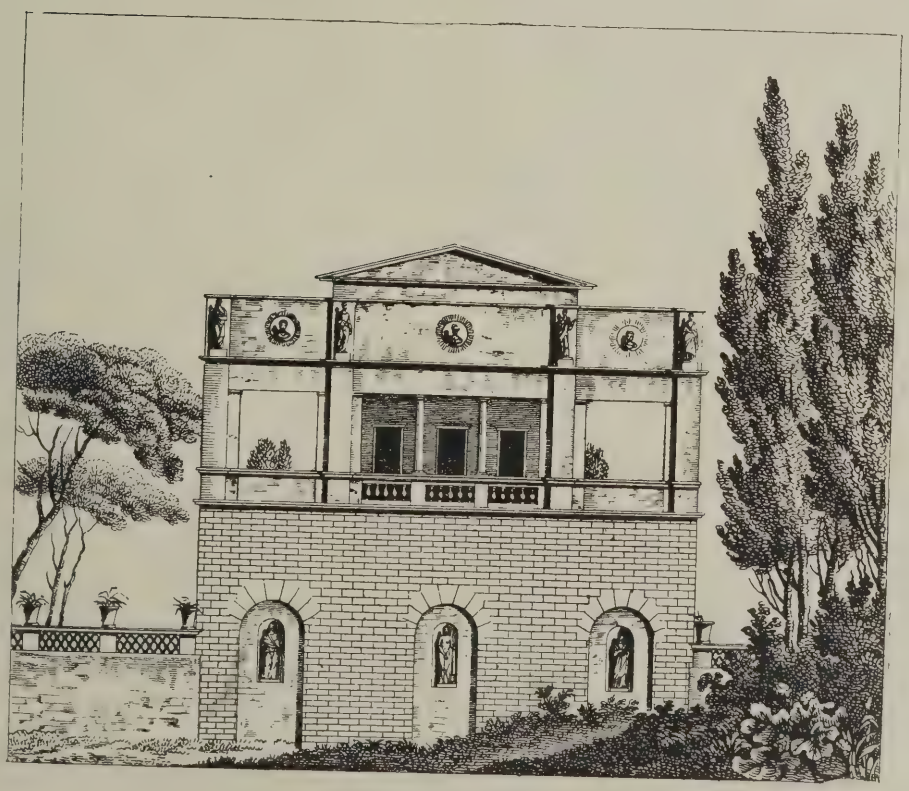
From the architect's point of view, those maps sh ing density of population, open spaces, and the com hensive series treating of traffic are, perhaps, of the importance, although the ultimate service of all unquestionable. As Mr. Lanchester said, they are essential preliminary to the preparation of all so schemes for the future development of our cities.

At the present day, when road transport seems to h taken on a new lease of life, and transport has its Ministry, the Traffic section of the maps is of first-

Italian Villas. I.—Two Minor Examples from Scheult



ON THE ROAD BETWEEN ROME AND NAPLES.



NEAR ROME.

When the Nantes architect F. L. Scheult made his fine collection of examples of Italian architecture, his avowed object was to present his brother architects with models for adaptation to French requirements. The two specimens here shown are delightfully representative of Italian domestic work at its best, displaying an exquisite sense of proportion and a balance of parts that is perfect in its delicacy—principles that are applicable to any country and to any type of building. Both examples are also rich in motifs.

est. Here are shown the navigable waterways, rail-
tram, and 'bus routes, and all areas beyond a
er of a mile and half a mile, of any of these services.
at such areas should exist nowadays in this year of
1920, and in the greatest, most powerful, and
st city the world has ever seen, may be unbelievable
t they do. And, referring to the informative Popu-
maps, they are even inhabited!
oking at the Recreation maps, the public open
s are few enough. To the east there is the large
of Epping Forest, and to the west Richmond Park,
owhere else between Finchley and Croydon, Ilford
Ealing, shall you lose sight of a house. Set in the
of the many acres of bricks and mortar, Clapham
non, Wanstead Flats, Blackheath, and Hamp-
Heath, are well-nigh lost. If London were burned
ground by a second Fire, the town-planners of the
, faced with these maps, would see to it that such
ce never occurred again.
e great development plan of the London Society,
duced on the double-page plate in this issue,
les a basis of solid information and suggestion, for
st time completely brought together and graphi-
represented—something that can be worked upon,
sed, and, perhaps, improved.
e exhibition will remain open for several weeks,
10 a.m. till 5 p.m. daily. Admission is free. H. J.

Housing Progress: Latest Figures

The Government grant of £260 to £230 was paid to private builders in respect of 284 houses completed during the week ending October 30. Altogether, 2,763 houses have now been completed under the terms of the grant, and payment has been made to the builders concerned. Certificate "A," which enables private builders to proceed with the building of houses which will eventually become eligible for the grant, was granted during the week ending October 22 in respect of 480 houses. £542,186 had then been paid in respect of houses completed under the terms of the grant. The total amount to which the Government is committed, in respect of those houses for which plans are approved, on October 22 amounted to £5,374,477.

Ninety-four local authorities are now proceeding with building schemes on which they are employing direct labour. These schemes involve the building of 8,006 houses. Nine public utility societies are also building by direct labour on schemes which comprise 1,128 houses. Recent sanctions to proceed by direct labour have been granted to the following local authorities: Abertillery (12), Walthamstow (100), Essex County Council (2), Nantyglo and Blaina (50), Church Stretton (20); Carlton (66), Nottingham (224), Stamford (30), Hastings (72), Hythe (42), Farnham (28), Southgate (20).

The Case for Modern Architecture*

By JOHN W. SIMPSON, P.R.I.B.A., Membre Correspondant de l'Institut de Franc

TWELVE months ago—at the opening of our first session after the conclusion of peace—it was my privilege to direct your attention to the qualifications of the architect, with especial reference to certain aspects of a mental training which should render his services valuable to the State during a period of reconstruction. That since that time we have observed little recognition of the profitable asset the nation possesses in its architects will not greatly surprise you.

To-night I propose to follow my panegyric of the architect's vocation with a word of good cheer as to the progress of the art he practises. That all is well at the moment I would not assert (it never was!); we are at one of the many difficult places in the age-long road of art we are building, in continuation of the work our fathers began at the world's foundation. There are many to tell us (there always were!) that what we do is by far inferior to what was done in the eighteenth, the fourteenth, in any century you please before or after the birth of Christ; that our case is desperate, since, in their opinion, we have lost direction. Well, it is not given us to see ahead; we can only range our course by the upstanding stones behind us. But if we step aside to the high hill called "*Clear*," and look through the Shepherd's Perſpective-Glaſs, we shall see that the track, though devious, trends always upward; we may even, as did Bunyan's Pilgrims, discern something like the Gate, some of the Glory, of the Cœlestial City to which it leads. Nor shall we fail to note that, while the work nearest our eye is intact and varies much in quality, most of that in the distant past has crumbled away, and only the best of its time remains. The survey, I think, need not discourage It shows us art illimitably long, our lives too short to achieve very much, either good or bad. If, then, we only maintain the standard of what has gone we have done well; if we can advance it by the thickness of a finger-nail we rank with the great Masters of all time.

* Extracts from the President's Inaugural Address to the R.I.B.A. on November 1.

New Becomes Old

Incompetent criticism, like any other public duty ill performed, has evil results. Persistent depreciation of contemporary and recent art is, in great measure, responsible for revolutionary efforts to break away altogether from the past, to find a new, and short, road to æsthetic expression. Exasperated by incessant taunts, unbalanced minds are stampeded from the quiet fields of honest study into the frantic eccentricities which, now and again, astonish us—and vanish into oblivion. The classic track is no easy one, they are told it leads nowhere, and lack the faith to follow it to fruition. Architecture has been, perhaps, less disturbed by the clamour than the sister-arts; its solid ballast of utility has steadied it; but architects, too, are disquieted by demands for originality, for a "national style," by assertions that "the old was better," by accusations of being mere copyists. We need not take the outcry too seriously. The middle period of the nineteenth century is still the common quarry of æsthetic hawks, but the work of its earlier years is now discovered to be better than was supposed; Gower Street, built in 1826, is no longer the type of the unlovely. Let us hear what Heine, an accomplished critic and admirer of London, who was here at the time, thought of its architecture. "These houses of brick," he writes in his "English Fragments," "become of a uniform brown olive colour: they are the same style of building, genera or three windows wide, three storey with small red tiles above which one of newly extracted bleeding tee broad and accurately aligned seem to be bordered by endlessly lo racks. Rich speculators, to me demand, build wholesale entire st these dwellings, which they retail At the west end, where the more cratic and less-occupied world liv uniformity is still more dominan there are very long and broad where all the houses are as la palaces, outwardly anything but guished, unless we except the fact these, as in all the better class of ho London, the windows of the first st adorned with iron-barred balconi on the ground floor there is also railing, protecting the entrance to cellar apartments buried in the ea this part of the city are also great where rows of houses, like those described, form a quadrangle."

It is no new thing, this eulogy past and disparagement of the We may doubt if any artist is justl ciated till long after he is beyo reach of praise or blame; some overrated, others are certainly und "the idols of past generations suddenly to dust, while the despi rejected are lifted to pinnacles of This is most true of architecture, the mirror of our own life, and th tion is too clear to be flattering.

My address must necessarily, I deemed illogical. An artist must vinced of the rightness of his ow for without faith is no enthusi

* Addington Symonds, "On Some Pri Criticism."

ST. MICHAEL'S TERRACE, STOKE DAMAREL, DEVONSHIRE: PRINCIPAL FRONT. JOHN FOULSTON, ARCHITECT.

ly Nineteenth-Century Architecture. 11.—Slate-hung Façades in Devonshire

TWO SMALL HOUSES AT TAVISTOCK, DEVON.

END OF ST. MICHAEL'S TERRACE, STOKE DAMAREL.

small houses such as the examples from Tavistock, style and character are seldom found, but here the treatment is distinctly architectural, essed bays redeeming the surface from dulness by avoiding the monotony of a dead level and by giving scope for the free play of light ade—an effect accentuated by the deep eaves. The view of the end of St. Michael's Terrace, Stoke Damarel, is interesting as showing ving finished the Terrace in stucco, Foulston sought to avoid a "lame and impotent conclusion." The illustration shows that, with the aid of heroic slate-hanging and judicious ramping, he succeeded remarkably well in the attainment of this object.

ıbter can never achieve a great ation. If, then, he can so detach him- from conviction as to be able to com- e the work of dead Masters with his ı, to survey dispassionately the past present, he is no artist, and has no e claim to attention than the casual nan! The syllogism is irresistible; I r you my thoughts: you will form r own conclusions. For my part, I ll prudently evade the consequence of argument and make no reference to work of living men.

ı determining the merit of modern ıitectural work there are certain ıalities to be taken into account, if we to arrive at a true judgment. To e, as it seems to me, sufficient atten- is not given by those—whether nicians or lay-writers—who attempt efine the quality of recent design in ion to the standards bequeathed by great ancestors of our calling.

ıeteenth-Century Education

aditional education in design during second half of the nineteenth-century disturbed—one might say bewildered a deluge of illustrated books and dicals due to improved and cheapened esses of photography. The student, ad of having to select and make his drawings of a chosen subject, thus l at his disposal a heterogeneous of information about buildings in country and style. Though incom- —presenting selected aspects only, of ositions which need plan, elevation, section to reveal their true meaning; prone to emphasise the picturesque, r than the greater qualities of our the material supplied was for the part good of its kind, and we owe to graphy many really valuable works ference. The trouble was not so the quality, as the sudden profusion ied suggestions, confusing to the re- e mind, overtaxing its capacity for ption and digestion. In effect we lived through an age which has col- a vast deal of new knowledge, some icial, but on the whole profitable. fathers hardly strayed outside the groves of Greece and Rome, save cursions into the field of Italian ssance, a passing glance at its ı manifestation, and perhaps a hat inappreciative survey of the cathedrals. We, cheaper and easier abetting, have had spread before us chitectural panorama of the whole through seven thousand years of Egypt, Crete, China, Japan, , India, to say nothing of Spain e less-visited parts of Europe. The may, or may not, be something un- d, but we see already a wider view ing of what constitutes tradition, a ıg of prejudice, and much experi- reproduction of exotic work; ten- efforts to find seemly clothing for eds, to which neither toga, trunk- or periwig, can be suitably adapted. e "new needs" form perhaps the ason for the change from what was traditional design. Educational ommercial requirements, for ex- have altered materially since our l, and have to be frankly recog- nd provided for. The plate-glass window has become an essential in street design, and we can see in progress the transition from a ental ordinance, with its lower emoved—leaving the stately super- e in the air—to a light pier-treat- rrying an appropriate surface over.

With modern systems of construction there should be no difficulty in treating the lower storey as a void, instead of as a solid; but the Italian or French palace motive must be abandoned. The great perpendicular windows of York, Beverley, or Gloucester, and those superb arched and traceried canopies where mass increases upward, offer fertile suggestions for steel-frame treatment.

Importance of Hygiene

Another and most important factor in contemporary design is hygiene. We are still boggling at soil, waste, and ventilating pipes; deliberately omitting them from our elevations, and letting the sanitary engineer carry them as he can, sprawling over our piers, cornices, and roofs, where they are not shamefully buried in the walls. But the apartments to which they pertain have perforce to be considered, and fenestration becomes a difficult matter; we may no longer plan majestic ranges of window, behind which bathrooms, sinks, and sanitary needs are left to be contrived as best they may. Health authorities fix the area of our windows, settle their height with relation to the ceiling, and (very properly) take no account of a predilection for unbroken wall-space, or of a desire to build according to the tradition of our forefathers; in which, I may observe, external fire-escape stairs found no place. Inside the building similar questions arise. Staircases must be enclosed, to the destruction of delightful vistas; elevators, incongruous to Renaissance motives, are wanted; immense conglomerations of pipes, tubes, and wires must be laid out and planned in shafts where they can be reached for repair; light and ventilation take precedence of suggestive mystery, and the effect on plan and decoration is revolutionary. It is useless to cry after the traditions of past days; our problems are altered, and we have to solve them in our own way. Naturally, the change is not yet complete.

Value of Old Work

It is needless to prolong a recital of the innumerable new conditions, materially affecting design, under which we work; the mere suggestion will bring them crowding to your mind. There is another point to consider when we try to measure the art of to-day with that of the past. It is extremely difficult to estimate the exact, cold value of bygone work; time touches even the commonplace with beauty. To the artist's mind, the softened outlines and mellowed colouring of ancient buildings make irresistible appeal; while the hard baldness of the new repels him. For the true appraisement of what is generically termed "old work," we must mentally divest it of this adventitious charm, disperse the mist of historic and personal associations through which we see it, and reduce it to its first intention. It is a mere fact that many admired buildings of the past owe but little to their original design, are, moreover, a fortuitous combination of many men's work at various times. Conscious of their elusive, but extrinsic, beauty, students essay to delineate them by methods that emphasise their pictorial character, rather than by the merciless line of geometrical projection which, while finely sensitive to the great qualities of proportion and scale, takes no account of flattering accidents. Conversely, the weak designer strives to win public sympathy by exhibiting drawings of his work, not as it is, but as he hopes it may appear a century hence—ambiguous in detail, weather-stained, grown upon by lichens, and half-hidden by foliage.

The charge of "copying," of plagiarism from the past, is perhaps a little inconsistent with the accusation that we disregard tradition; it is none the less interesting to examine. In so far as it is true, it implies a curious failure to realise the great principle that the art of architecture is, perforce, continuous. "Time," said wise Verulam, "innovateth greatly, but quietly, and by degrees, scarce to be perceived; for otherwise whatsoever is new, is unlooked for; and ever it mends some, and pairs others." We may set out to copy, but we cannot succeed. Our ancestors believed themselves to follow the work of their predecessors, and the changes they made in it—probably unpleasing at the time, so far as they were recognised—are clear enough to us. We can identify the buildings that remain, century by century, without need to consult the records of the time. So posterity will examine and date with accuracy the work we do; stamped unconsciously by ourselves as of the last years of the nineteenth, or of that early twentieth century in which we live.

Influence of the Age

You may think to cover yourself with antiquity as with a mantle, but the fashion of your body is as God willed it, and the folds of the garment you have assumed reveal you. Man may not escape the influence of his age; your work, do what you will, is your own, and yours is the responsibility for it. The buildings of the Gothic revival were—and are—denounced as artistic forgeries, yet they can no more be taken for mediæval work than St. George's Hall for that of Roman times. Their date is as unmistakable as that of the buildings which inspired them.

The artist needs encouragement if he is to produce fine work. In so far as my modest authority warrants, I desire to offer it to my fellow-workers, to bid them lift up their hearts and take courage, in full assurance that every building they rightly plan, and honestly construct, stands squarely upon the ancient ways. That many will survive as classic is not to be expected, for the Calendar of Saints is kept severely close, and "classic," as Guadet finely says, is the artistic equivalent of canonisation. All is classic that deserves to be, irrespective of centuries, origins, or latitudes. It imposes itself: we can only observe and register it. All that has come victorious from the eternal conflict of the arts, all that is universally acclaimed as admirable, is classic. Few buildings in any period have withstood successfully the "advocatus diaboli," but we need not doubt that our time will furnish its proportion. Such buildings as Westminster Cathedral, the Houses of Parliament, and St. George's Hall; the works of Soane, Scott, Bodley, Pearson, Pennethorne, Philip Webb, Shaw, Street, and their like will not be denied immortality. Art, like nature, sows with a full sack (ours has been a very fertile age); much perishes, and only a few plants of each sowing excel, splendidly abnormal.

Yes! I do not fear to believe that the level of our architectural design is high—higher perhaps than that of any period or country. Our domestic work is the admiration of the world; there have been built throughout the kingdom, during our short span of years, town halls, museums, palaces, offices, hospitals, libraries, schools, which have passed unnoticed

save in the local or professional Press, yet are gems of design, and will be so recognised hereafter. In economic fitness of plan, in structural craft (we have now enlisted steel to our service), in the standards we exact of workmanship and material, our work stands higher than at any former time.

Such is my belief. I assert nothing; neither you nor I can speak with certainty of the relative merit of our contemporary art. The page is too near our eye for us to read what is written there; distance is required for mental, as for physical, vision to find a proper focus. The perspective of time, like that of space, is needed for a just comparison of distant objects with those near at hand. Moreover, we have all seen too many changes of thought, with regard to accepted canons of belief, to be dogmatic in opinion. Hazlitt observed, long ago, that distance of time has much the same effect as distance of place*; though, strangely enough, while perceiving this truth with regard to the future, he missed its equal application to the past.

"Originality"

The question of "originality" is bound up with that of comparison. Ecclesiastes, you will remember, pointed out that "The thing which hath been, it is that which shall be; and that which is done is that which shall be done; and there is no new thing under the sun. Is there anything," he asks, "whereof it may be said, See, this is new? it hath been already of old time which was before us." In this sense, originality is, of course, impossible; on the other hand, the permutations and combinations of the eternal elements of architecture are beyond number, and I take the demand for original design to mean no more than for a fresh disposition of walls, doors, windows, roofs, their proportions and decorations. Here arises a curious point in support of the words of Solomon, who, you will also remember, "praised the dead which are already dead more than the living which are yet alive," for quite other reasons than those of our critics. If a building could be imagined which should be wholly original in design, neither its merit, nor its demerit, could be appreciated by the human mind. It would speak an unknown tongue; and there would be no standard by which to compare it. It follows that in every design must be repeated some known forms, or features, whereby we may interpret and recognise the composition. Here is the reason why old work, the masterpieces of antiquity, must be studied with assiduous care and exactitude, lest our knowledge of them be imperfect, and tradition debased by inferior reproduction.

"A National Style"

As for "national style," whether it be good or bad it clearly exists. No one could mistake a British city for one of any other country; our national signature is written all over it. It is nevertheless possible that we are on the verge of such a new departure in our art as has taken place in the art of warfare, where "fighting," in the historic sense, with the development of guns and swords, seems likely to give place to mere destruction by misuse of the products of peaceful industries. In our case, it may well come about by frank recognition of the qualities of the machine, as opposed to obsolete methods of hand-work. There is nothing inherently uncongenial in the association of machine-work with architecture; the real incongruity is in attempts to maintain, or revive, mediæval craftsmanship in the twentieth century. Its charm lay in its spontaneity, its unaffected fitness for the surroundings of its date; to imitate it is to fabricate artificial flowers, which lack life and perfume. We live in an age of machines, and true architecture must needs reflect their influence. If we set ourselves to the planning and constructing of buildings supremely proper for their purpose, art will take care of itself. An artist will always solve his problem artistically. Finding inspiration in stern Utility, he transmutes it by his touch into

"Some fragment from his dream of human life,
Shaped by himself. . . ."

A vote of thanks to Mr. Simpson was proposed by the Earl of Crawford and Balcarres, seconded by the Very Rev. Dean Inge, and, on being put to the meeting, was carried with acclamation. Mr. Simpson briefly replied.

* "Why distant objects, please" ("Table Talk").

The London Society's Development Plan

In the early days of the Great War, the Council of the London Society held several meetings for the purpose of deciding upon the course the Society should pursue under the changed conditions of the country. The aim of this Society is, as many of our readers know, "to unite all Londoners who see the necessity for stimulating a wider concern for the beauty of the capital city, for the preservation of its old charms, and the careful consideration of its new developments."

At one of the Council meetings, the chairman, Sir Aston Webb, K.C.V.O., P.R.A., drew attention to the action of some eminent architects and other artists of Paris during the days of the great French Revolution of 1793, at a time when the work of all artists was practically at a standstill. These artists met continuously through those troublous times and prepared a plan for the development and improvement of Paris which, later, proved of great value. Under the regime of Napoleon III., fifty years later, Baron Haussmann took up the improvement of Paris. On this occasion the artists' plan of 1793 was referred to, and many of the suggested improvements were actually carried out. Such improvements as the Rue de Rivoli, l'Arc de l'Etoile, and other important features already in being, were linked up to form a comprehensive scheme.

London has never had a development plan on grand lines. It has grown up haphazard; and even in these times it develops in a promiscuous way, with no scheme and little—if any—control beyond what is provided by its eighty or more local authorities. The London Society therefore decided to obtain the services of a certain selected number of architects (whose work had been stopped by the war), to prepare a large development plan of London, showing all the proposed main arterial roads and giving a scheme of what London might be. The policy of the London Society was to complete a plan which could be referred to by the authorities of the future, and to prepare the way for the development of the metropolis for the benefit of posterity.

The financial aspect of the work was carefully considered, and efforts made to collect sufficient funds to pay the architects for their time and expenses, and to su them with the necessary maps, books other materials. The plan has cost £1,000, and, to meet this heavy exp funds were collected from the memb the Society, and generous financial was received from the Artists' Ge Benevolent Society, the Archi Benevolent Society, and the Nat Relief Fund.

As soon as sufficient money was in the architects began the work. Most preliminary information was obtain the spot, and an immense amount of was accumulated which was the amined, approved, and embodied in plan. In this great city, with a popu of 7,000,000 and an area of 700 s miles, the immensity of the work i dent to everyone. Greater London embraces a huge number of boroug more or less ancient origin, each h its centre of traffic and population. boroughs are naturally all linked London by arterial roads which ar the most part, irregular and inade for the demands now made upon To straighten and widen these roa (where preferable) to provide relief is one of the aims of the Society; a all this work it is an invariable r destroy nothing that is of architectu historical beauty. Another imp point that the Society keeps well in is to make these roads capable of m the tremendous demand which w made upon them in the near future types of motors. We would also sa that in the work which the enthu members of this voluntary Society undertaken, they have been accord full sympathy and assistance o Borough Councils, and particular co-operation of Colonel R. C. H C.B., of the London Traffic Branch Board of Trade.

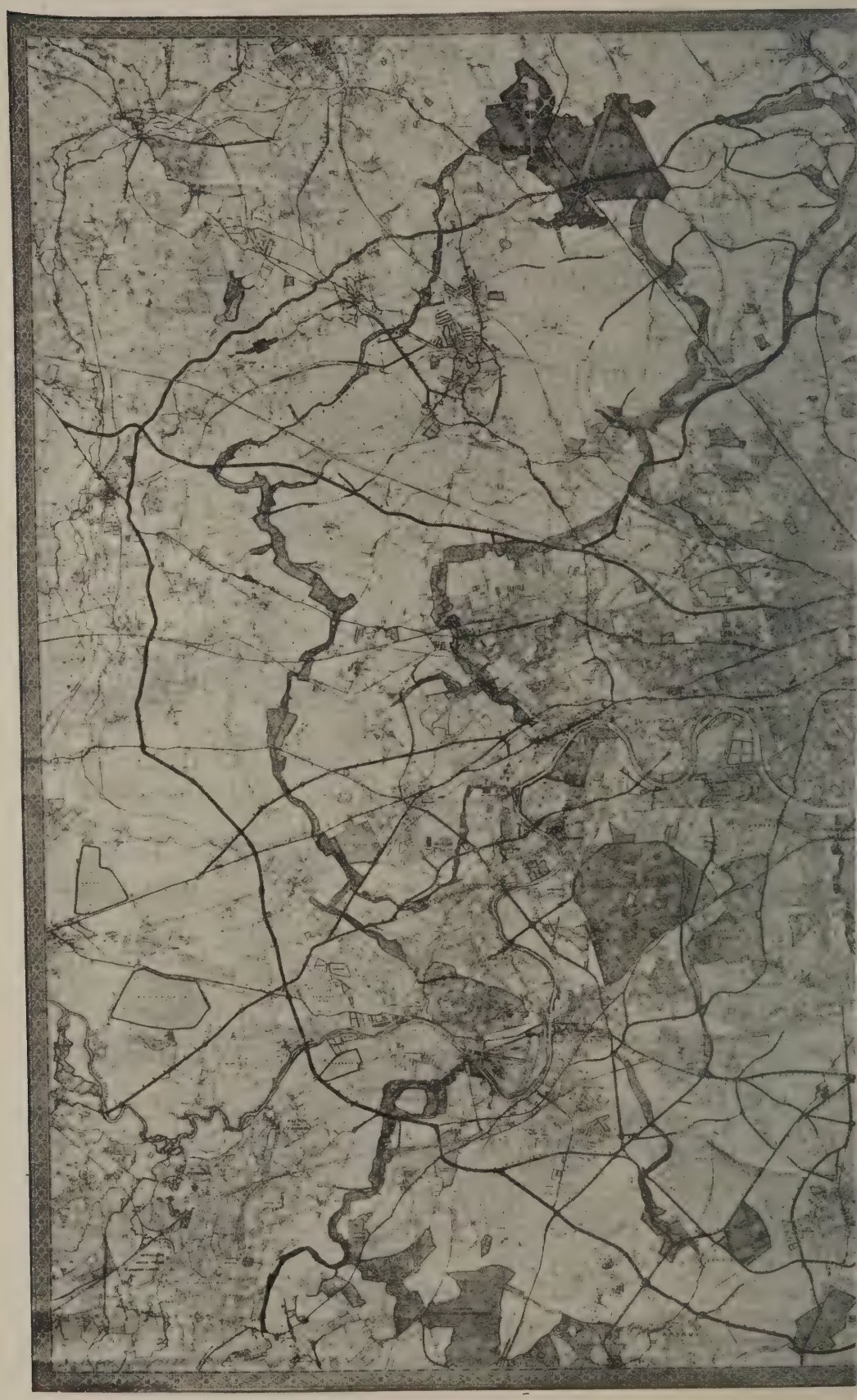
All the suggested new roads and c tions laid down on the map are, f sake of clearness, shown bordere trees, so that the new routes are vis a glance. The main existing through London are indicated b blacking in of the houses on either s that these also are plainly indicate at the same time differentiated fro new roads. It is thought and hope the information thus supplied w found invaluable to all the local a ties concerned, to those preparing planning schemes, to all landown this large area, and to the large an increasing number of Londoners int in London.

In addition, the map also shows t parks, parkways, and waterside r tions suggested by the London S all the existing open spaces are from careful survey, together wit posals for connecting them, wher sible, with belts of green parkways

The scale of the map does not pe the Society's proposals being sho Central London, but a committee considering these proposals, whi clude such important matters as t bankment on the north side of the T and the reconstruction of Southwa gestions for the better control and bution of the railways, with enormous passenger and goods into and through London. Und heading, also, the railway termi bridges across the Thames, includ course, Charing Cross, will be ful with.

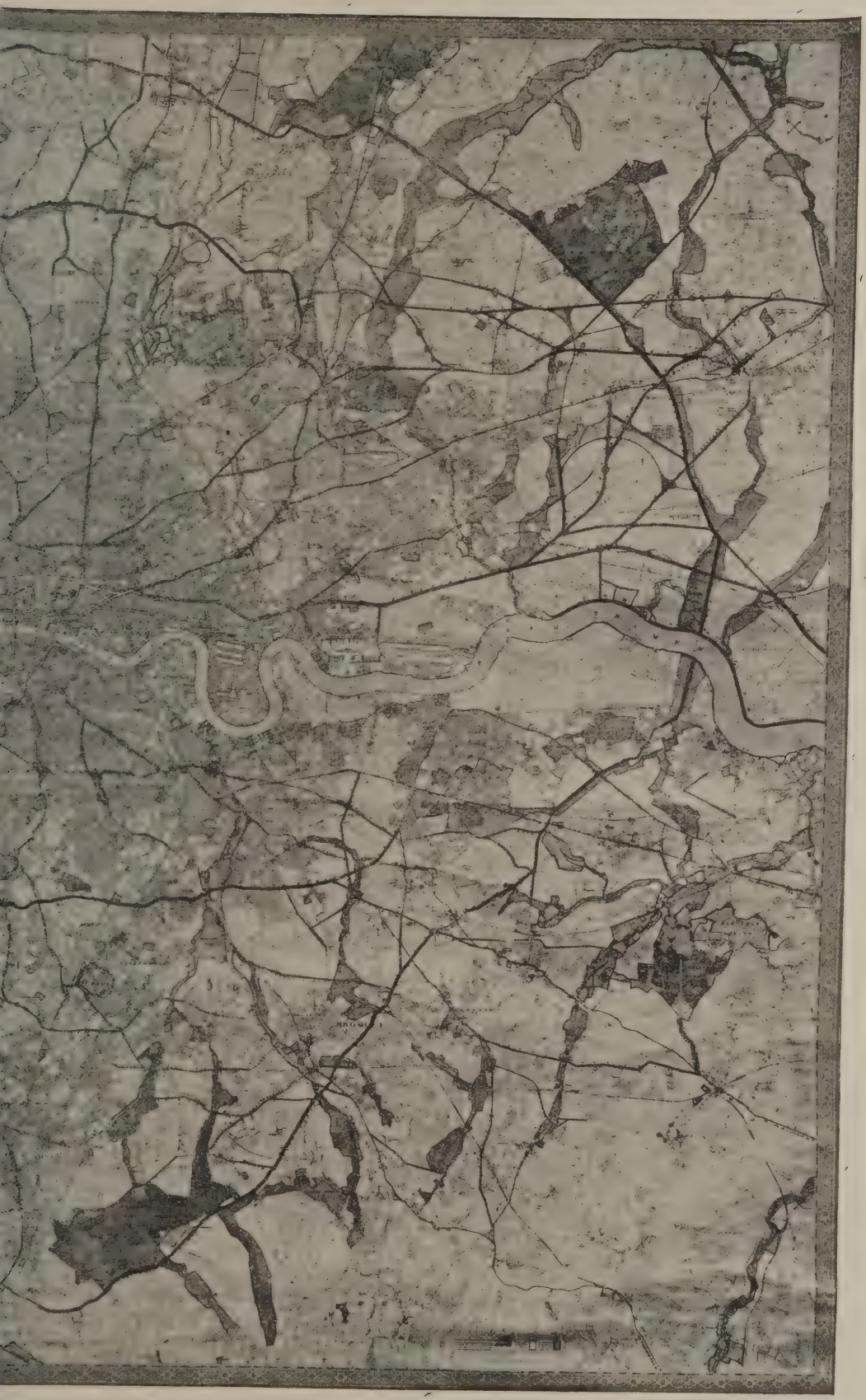
(To be concluded.)

Town Planning. 5.—The London



The London Society's development plan for Greater London, now on
supervision of Professor A. E. Richardson, F.R.I.B.A. It is so gigar
conjunction with an ordnance map, will afford a very clear idea of t
and the boulevards and open spaces, standing out so conspicuously
description of the plan, kir

evelopment Plan for Greater London



ition of Civic Survey Diagrams, was prepared for the Society under the
ɔh can do it full justice. The present reproduction, however, taken in
for the laying-out of London on rational lines; the great arterial roads,
hich is much less easily obtainable from the gigantic original. A full
Society, is given on page 518.

Payment by Results and for "Wet Time"

Views of the National Federation

MR. S. EASTEN, J.P. (Newcastle-on-Tyne), president of the National Federation of Building rades Employers of Great Britain and eland, occupied the chair at a largely tended special meeting held on Wednesay last week at Connaught Rooms, Great ueen Street, Holborn, W.C.

The chairman submitted the following ference from the Administrative Comittee:—

"That in view of the unsatisfactory nditions prevailing in the trade and peciany the decreased output the views members be sought upon, among ners, the following points:

"That the present disparity between the echanics' and labourers' rates is a atter of such grave importance that the ational Federation is requested to coner the subject at an early date, with a w to taking the necessary action vards obtaining an alteration in the ter's rate.

That the question of bonus on output or ment by results and the right for an ployer to employ whom he likes in any ft should also be considered, more parlarly with respect to the carpenters l joiners and bricklayers, who object to n over a certain age entering their ks, and that some definite policy may decided upon for the whole country in above matter, rather than leave it to ional action.

Further, that the National Federation uld give notice to determine the forty- hours agreement."

The 44 Hours Week

r. A. G. White, the secretary, exned that notices were sent to the atives on October 30 to terminate the y-four hours week as from May 1, , and that the council at a meeting the previous day had ratified his and President's action in doing so. The e had to be sent in before Novem- 1 in order to be in time, but of course as subject to the ratification of the ration.

r. R. B. Chessum (London) said the had now come when employers should le that they intended to control their industry. The labourers' rate should laced upon an economic basis. Such posal would tend to alleviate a great of unemployment, which, in the ker's opinion, was due in a large ure to the enormous cost of produc-

. W. H. Nicholls (Gloucester) said had got to face the fact that labour attempting to take control of the in- y.

. Smethurst (Oldham) agreed with had been said by the last two kers, but pointed out that if they were to fight they ought very seriously to der their ground before taking any n.

Morton Brown (Chester) said that a d man in the engineering trade, after g through an apprenticeship, was getting 1s. 10½d. an hour, whilst the rs' labourers were receiving approxi- y 2s. per hour.

Mr. Gerrard (Manchester) favoured a reduction of the labourers' wages and a bonus on output.

Mr. Hope (Northern Council) said he thought it was generally agreed that the reference before them was a reasonable programme, and it was for them to say how far they were prepared to go along the lines of aggression in advancing it.

Mr. Greenwood (London), as a Past President, said he would like to see the building trade insist upon its right to employ ex-service men, whenever and wherever they had the chance.

Mr. Baxter (Glasgow), speaking for Scotland, said he and his colleagues were there to say they would support any common action which might be arranged in defence of the industry.

The Ex-Service Men

The chairman, commenting upon the various speeches, reminded them that in the Ministry of Health the Government was the largest building employer—he alluded to the housing schemes. It had been suggested by a Cabinet Committee of the Government that some 50,000 ex-service men should be employed as mechanics in the building trade. The employers on their side were suggesting paying a bonus on output. Both these suggestions could run in double harness, and he believed they would receive the popular support of the whole country. It was generally agreed among the building trade employers that the average workman was only doing one-third to one-half what he could do if he liked to work reasonably. The suggestion to give a man a bonus on output should be approved by a committee of the operatives and the employers, and it should contain a stipulation that no man should receive less than the trade union rate of wages.

After further discussion, it was unanimously agreed, on the motion of Mr. Hodges (Midland Federation), seconded by Mr. Chessum: "That this meeting generally approves the suggestions contained in the reference, and requests the Administrative Committee to formulate a scheme to give effect to such of the recommendations as they consider practicable, with power to act, and this meeting pledges itself to give the utmost support to any course so decided upon."

Government and Payment for "Wet Time"

The chairman then introduced the following proposal by the Minister of Health: "That subject to an undertaking from a Building Trades Union to adopt and give full effect to the proposals made by the Building Resettlement Committee of the Joint Industrial Council of the Building Trade, the Ministry of Health will be prepared in respect of that trade to apply the following scheme for payment for lost time on housing schemes. In the case of a man employed, or standing by to work on a job when called upon, for a full week, the payment for time lost through stress of weather, shall be 50 per cent. in respect of time lost up to twenty-two hours per week. In the case of time lost in excess of twenty-two hours, the hours lost over and above twenty-two hours shall be paid for at the rate of 75 per cent. of the time rate."

Mr. Easten explained that there had been negotiations between Dr. Addison and the Resettlement Committee of the Industrial Council for over twelve months, and the proposition before them appeared to be the outcome. The Resettlement Committee were placed in an awkward position, and they eventually recommended the payment of 50 per cent. for lost time. That apparently arose from the abnormal position in which they found themselves, firstly owing to the shortage of labour and in view of the Government demands. He personally considered they would be unwise if they did not decide to give a guarantee for lost time.

Mr. Nicholls moved the rejection of the Government's proposals in toto. He considered the Government proposal was a most pernicious way of dealing with the matter. Who was going to say when it was wet or fine?

Mr. Cook (Preston) seconded the motion.

Mr. Stimson (Leicester) opposed the idea on behalf of his association of paying anything for wet time.

Mr. Morton Brown (Chester) and Mr. Wills (Bath) supported the resolution.

Mr. Porter (Derby) said his association was unanimous that the scheme was impracticable. They knew perfectly well that if the principle was once conceded for housing it would be a permanent thing throughout the industry.

The chairman, whilst not defending the scheme, pointed out that if they as builders did not accept the proposals, it would mean the Government would extend the area of direct labour.

Mr. Woods (Bolton) urged them to remember that unless the trade unions agreed to men-apprenticeship for ex-Service men the scheme would fall to the ground.

Mr. F. Thorne (London) could not see why it was necessary for Dr. Addison to make any compact with the trade unions. He thought the only way out was the principle of contributary insurance.

Health Ministry Opposed

Mr. Nicholls withdrew his motion for the rejection of the scheme, and altered it to read as follows, in which form it was carried: "That as a result of a careful consideration of the Government's Wet Time proposals we decide as follows: (1) That we are strongly opposed to the decisions of the Minister of Health as being detrimental to the well-being of the building industry, and of enormous cost to the community in general. (2) That a strong protest be sent to the Cabinet against the Minister of Health's decision to grant such terms to the operatives. Now that war conditions are largely over we desire that decisions on affairs affecting any industry be left to those engaged in the industry. (3) That we will gladly co-operate with the operatives in giving fresh consideration to this matter with every intention of coming to a satisfactory conclusion."

Correspondence

Architects and Unemployment Insurance

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—Members of the architectural and surveying professions will, of course, be aware that the National Unemployment Insurance Act came into force on November 8. Unless action is taken, those in the architectural and surveying professions coming within the scope of the Act will be compelled to pay their contributions to a labour exchange, register there in case of unemployment if they wish to draw benefit, and report daily until employment is found.

Most architects and surveyors will probably find this a very unpalatable procedure, and the purpose of this letter is to let all concerned know that an attempt is being made to form a special Unemployment Society under Section 18 of the Act, and in this way to keep the control of unemployment insurance in the architectural and surveying professions in the hands of architects and surveyors themselves.

At a recent meeting, at which were represented the R.I.B.A., the Surveyors' Institution, the Architectural Association and the Society of Architects, together with the Architects' and Surveyors' Assistants' Professional Union, it was decided to take all necessary steps to organise a scheme for unemployment insurance under the above-mentioned section, and I was requested to convey this information to your readers, with a request that those concerned will bear this in mind and await with patience the further developments of the scheme.

This should not prevent them from stamping unemployment insurance cards in the ordinary way, but they are advised not to join any other Society, or make any definite arrangements for the future until our scheme is matured.

F. R. YERBURY.

Drawings of Old Wagons, Etc.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I shall be very grateful to you if I may appeal to my brother architects through your pages. I am anxious to obtain the loan of any drawings they may have of old wagons, ploughs, and the like. All these beautiful old things are going, and going very rapidly. I want to make a series of drawings of distinctive types before it is too late. So far as I can discover, there is no record in existence now.

It is work which the architect can do, and in time will be of value.

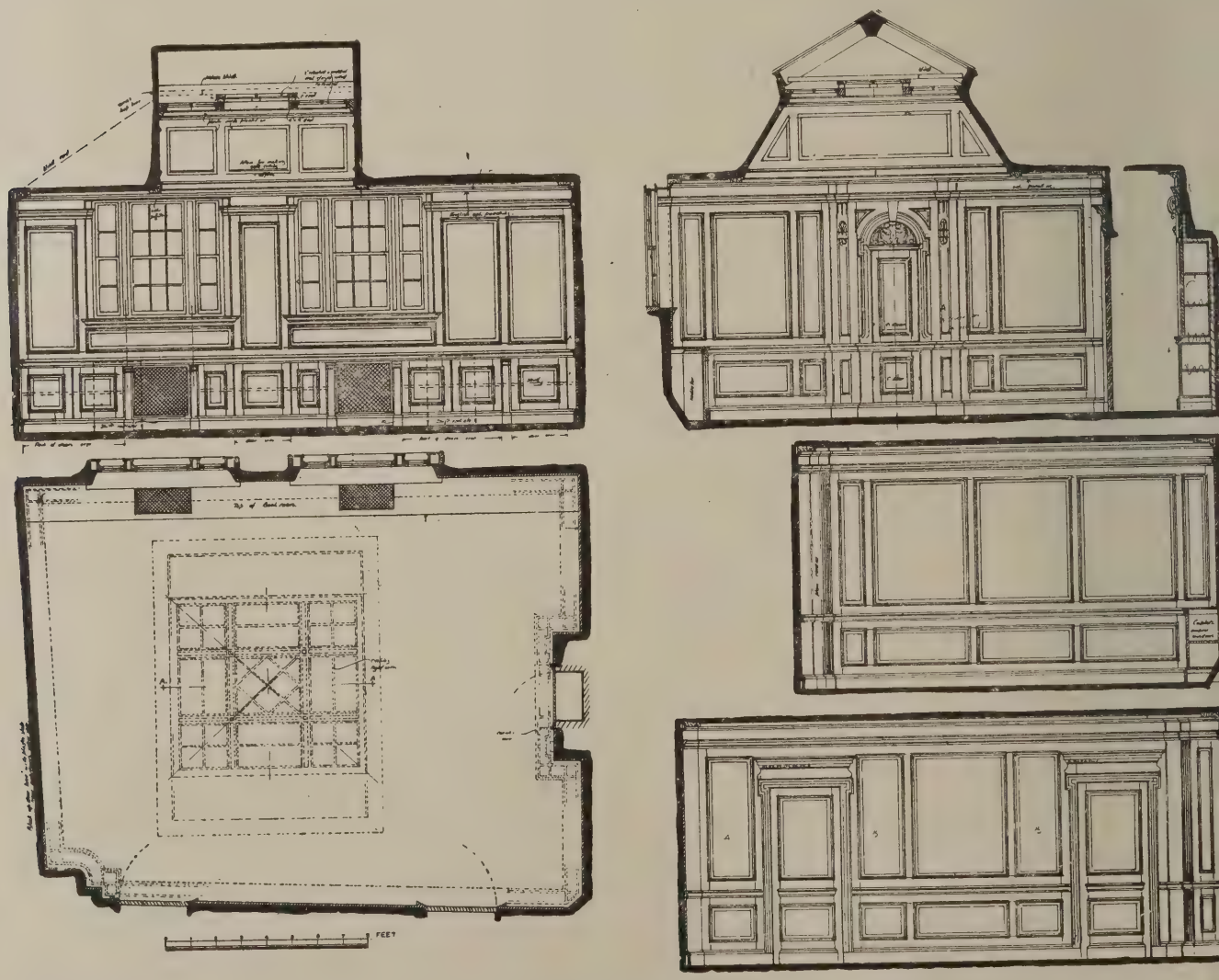
C. H. B. QUENNELL, F.R.I.B.A.

Architects' Assistants Visit Liverpool Cathedra

The Liverpool branch of the Archit tural and Surveying Assistants Prof sional Union have paid a visit, by ki permission of the architect, Mr. G. G bert Scott, A.R.A., F.R.I.B.A., to Liv pool Cathedral. The visit was enjoy immensely by the party, which no dou took away many ideas in planning a design that should prove of the great use in the future.

Some idea of the vastness of the schen which is at present under constructi may be obtained from the followi dimensions: Length of building as signed, 561 ft.; length of Lady Chap 100 ft.; total length, 611 ft.; length portion now being built, 300 ft.; hei of chancel, 116 ft.; width of chanc 47 ft.; width across chancel and ais (inside measurement), 86 ft.; length chancel, 152 ft. The great East Wind is 76 ft. high and 36 ft. wide. The foun tion stone was laid by King Edward V on July 19, 1904, and the Lady Cha consecrated on June 29, 1910.

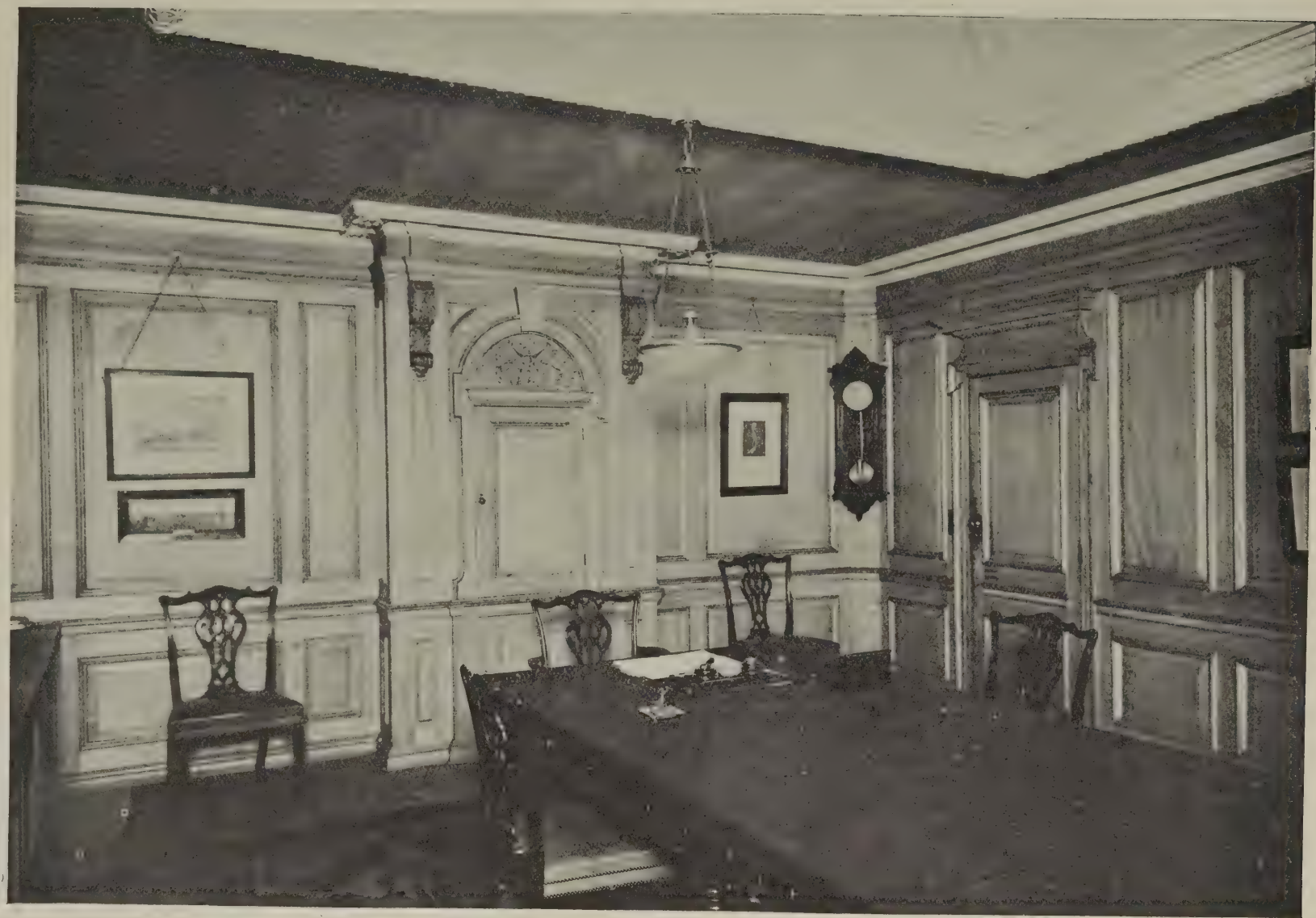
Mr. Frank A. Jamieson, branch sec tary, states that he thought during visit what a splendid opportunity was p sented at the Cathedral for a magnific memorial to the fallen. He suggests t a fund should be inaugurated to def the cost of building the tower over the c tral space. As he says, "What grea memorial could be erected?"



BOARD-ROOM IN BUSINESS PREMISES, OLD BROAD STREET, LONDON, E.C. C. H. B. QUENNELL, F.R.I.B.A., ARCHITECT.

Current Architecture. 48.—Board-room in Business Premises, Old Broad Street, London, E.C.

C. H. B. Quennell, F.R.I.B.A., Architect



This is an instance of the distinction that can be imparted to an old and characterless room by judicious panelling. The panelling was wrought by Messrs. John P. White and Co. Some interesting plaster work supplied by Mr. Armitage is not shown in the photographic view. Messrs. H. Roffey and Sons were the builders.

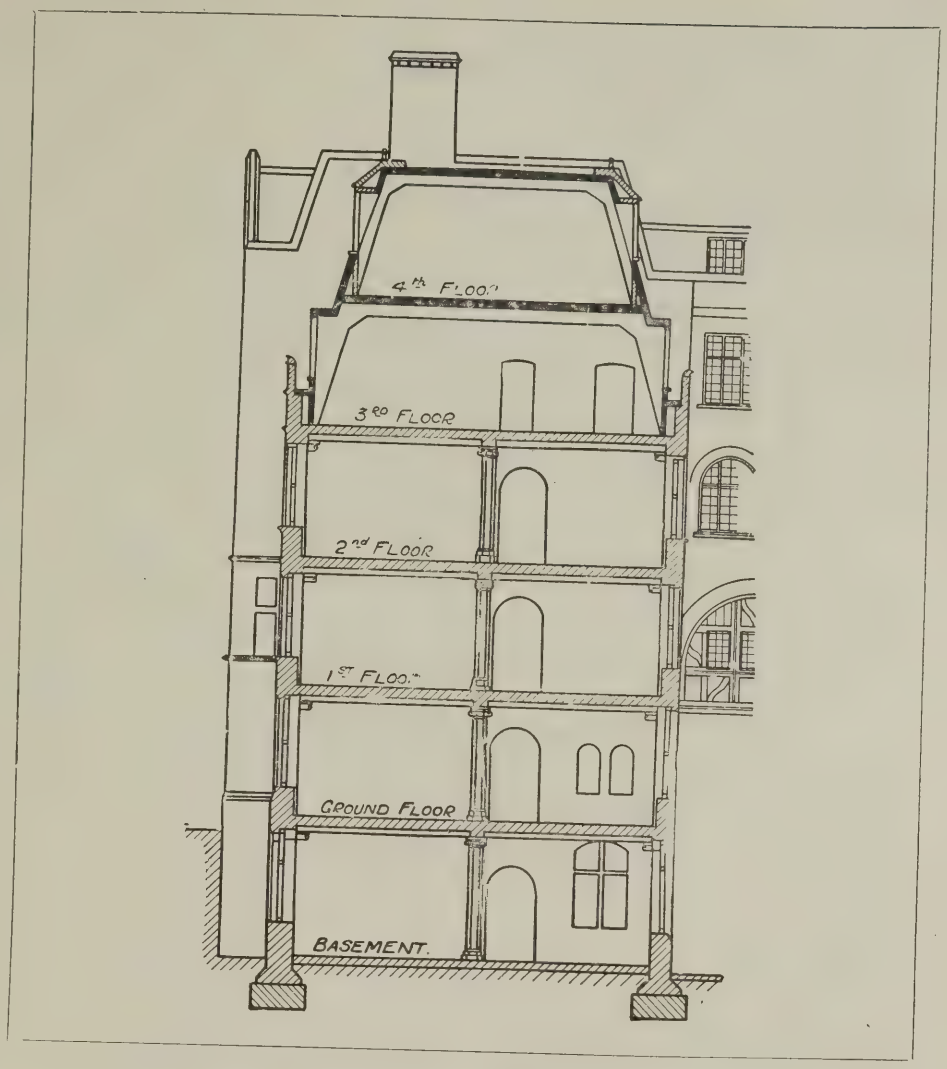
Adding a Storey to the Prudential Building

ANOTHER storey is being added to some of the numerous wings of the head office of the Prudential Assurance Company at Holborn Bars, London, to provide accommodation for the increased staff of the Company. The wing which fronts Holborn is, at present, one storey higher than most of the others, and the work in progress is bringing the latter up to approximately the same level. When the work is complete a very large addition will have been made to the accommodation and floor space available for the staff.

In the wings which are being altered the present third floor is an attic storey entirely in the roof, which is a composite structure of iron and timber, and springs from the floor level. The light is obtained from windows in small gables that intersect with the main roof. These windows and gables are retained in the new construction with additional dormer windows between them.

The work of removing the existing roof and constructing the new one was carried out by the contractors, Messrs. Holland and Hannen and Cubitts, Ltd., without interrupting or interfering with the general business of the Assurance Company. During all the time that the work has been in progress the staff have been working in the rooms immediately below the storey that was being reconstructed, with no signs of the extensive building operations visible except the scaffold poles outside their windows.

Up to the third floor level all the building operations are being conducted on the outside of the building. In order to give access to the third floor it was necessary to construct an elaborate scaffold by means



TYPICAL CROSS SECTION.

A ROOM IN THE NEW STOREY ADDED TO THE PRUDENTIAL CO'S PREMISES, HOLBORN BARS, LONDON

of which all materials are raised and lowered. This scaffold is continued up to a height well above the level of the new roof and forms the sole support of the temporary roof that covers the whole area of the wing. The upper portions also of this scaffold are enclosed and form side screens to keep out driving rain and to act as wind screens.

The existing walls and piers are strong enough to sustain the additional weight which is being put upon them, and they are not being raised except in the case of the bridges connecting the upper stories of the various wings, which in some cases have to be brought up to the level of the new fourth floor.

The new construction is of reinforced concrete. The diagram shows a typical section through one of the wings. Inclined reinforced concrete members or rakers spring from the third floor level and support the main beams of the new fourth floor and the new roof. All horizontal thrust which would naturally result from the shape and inclination of the rakers is resisted by steel ties which are sunk in the existing third floor so that the walls and piers have to sustain only the vertical loads.

Despite the fact that the structure had to be of considerable strength and rigidity owing to the large spans and the weights to be sustained, the general effect produced in the interior is one of lightness and airiness, due possibly to the wide, open floor space and the excellent lighting.

In addition to the windows in the existing gables which light the new third floor, dormers are introduced in both floors, and give very good light in all the rooms. These dormers are of simple but dignified design and are covered with lead. The main sloping roof and the larger gables are covered with slates of a very pleasant greenish-grey colour.

It is proposed to take advantage of the flat portions of the roofs and use them as a promenade where the staff can enjoy the air and sunshine in their free time, well above the noise and dust of Holborn. For this reason the flats, which are covered with asphalte, are enclosed by an iron railing.

In many cases it was not possible to obtain exact dimensions and important particulars until the existing work was removed, but to avoid holding up the work provision was made for a certain amount of adjustment upon the spot, taking up irregularities here or there by means of additional laps between the bars and by other little "tricks of the trade."

The work is being carried out under the direction of Mr. Paul Waterhouse, F.R.I.B.A., by Messrs. Holland and Hannen and Cubitts, Ltd., the Trussed Concrete Steel Co., Ltd., acting as specialists for the reinforced concrete work and supplying the rib bar reinforcements which are being used throughout.

Publications Received

Reinforced Concrete Design. Volume II. Practice. By Oscar Faber, O.B.E., D.Sc., A.M.Inst.C.E., A.C.G.I. Price 18s. Edward Arnold, 41 and 43, Maddox Street, London, W.

General Report on the Trade and Economic Conditions of Turkey for the Year 1919. By Captain C. H. Courthorpe-Munroe, Commercial Secretary to the British High Commission, Constantinople. Price 2s. net. H.M. Stationery Office.

London Master Builders' Annual Dinner

At the annual dinner of the London Master Builders' and Allied Industries Association, held last Thursday night (Mr. F. J. Gayer, President of the Association, in the chair), Mr. Ernest J. Brown said he believed certain Ministers met the authorities in the building trade only the previous day with a view to getting them to agree to "dilution." As far as the employers were concerned they were heart and soul in favour of dilution—they wanted to bring in the ex-service man and to help the Government in this respect all they could. The Government should bring them into conference with the operatives and themselves and, as they had repeated time after time, for goodness sake let the building industry manage its own affairs. Builders had taken some nasty medicine from the Minister, but they had had enough, and now they wished to return to those pre-war conditions under which the builder managed his own business. As far as the London building industry was concerned, the employers had put their backs into everything that the Government had asked for in regard to housing, and they had been deliberately turned down. If the game had been played as it might have been played, and the builder had been given a chance to build houses, the nation would have seen houses going up like smoke.

Mr. Walter Lawrance, proposing the toast of the "Architects and Surveyors," spoke of the new Code recently issued by the R.I.B.A., and said in his view it was a very much worse document than the old one. All they wanted was an agreed, fair document. They did not want extremists to deal with the question, but moderate men; and the moderate men on both sides should meet and see if they could not devise a way out of the present chaos. The Ministry of Health had done many things as far as housing contracts were concerned, and although their building contract was not perfect, it was an improvement on the Royal Institute's form.

Mr. G. Gilbert Scott, A.R.A., F.R.I.B.A., President of the Architectural Association, expressed the view that there was a lack of cohesion between builders and architects. It was essential that there should be greater co-operation between those concerned in the two arts. Architecture, like music, was an art in which the composer depended upon the executant for the interpretation of his ideas, and he did feel that the closer the builder co-operated with the architect the more satisfactory would that interpretation be.

Sir Charles T. Ruthen, O.B.E., F.R.I.B.A., President of the Society of Architects, referring to the National Building Code, said he could not understand how Mr. Lawrance had forgotten that the Society of Architects brought out a contract. Whether it was as good a one as the other two he was not prepared to say; what he did say was that they ought to be ashamed of themselves if the employers and the architects could not put their heads together and get out a decent contract. The great trouble of the day was housing. It seemed that the more effort Government Departments put forward the less the ranks of the building industry grew; the more the Government interfered the less work was done. Why the Government should deliberately neglect to consult those who understood particular industries passed his compre hension. Dr. Addison was an exceedingl able man, but he and the Cabinet wer carrying on a very dangerous flirtatio with the operatives, which might prov disastrous to the Empire.

The President said the membership c the Association was double now what it wa in 1914. There were few big firms no outside their ranks. The Association wa run on democratic lines, and they we comed every builder in their ranks. Wit regard to the labour outlook during th war and since certain sections of labo had become convinced that there was r limit to what they might demand fro industry. But industry could only be a certain amount, and if they tried to e tract from it more than they put into chaos was bound to ensue. In his opini wages had now reached a higher level the building trade than the industry cou bear. That was proved by the vast volun of work which was being turned down b cause of the high cost.

Enquiries Answered

Thistle Plaster Board.

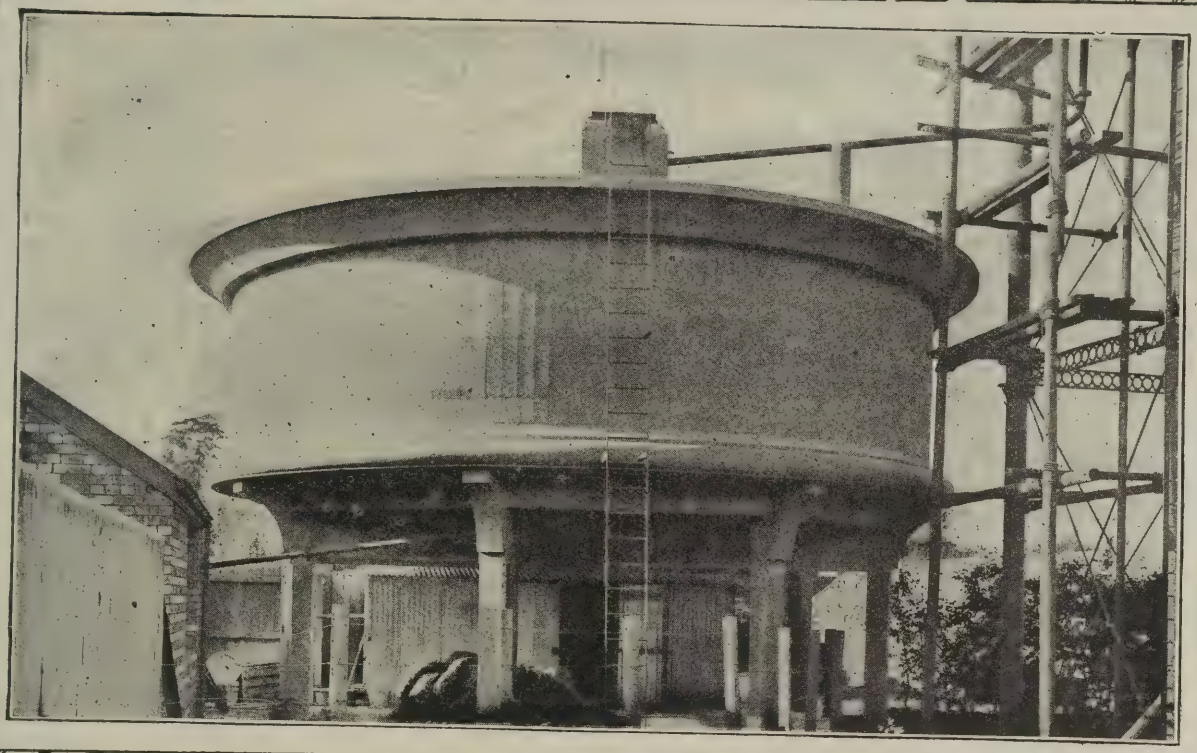
J. P. writes: "Please inform me w are the makers of Thistle plaster boa quoted in your 'Current Prices Materials.' Is Thistle plaster board substitute for lath and plaster, and m it be satisfactorily used for housi schemes?"

—The manufacturers of Thistle plas board are Messrs. R. G. Ward and Co pany, of Laurence Pountney Hill, C non Street, E.C.4. The material, wh is made in Carlisle, is about ⅜ in. th and is composed of two thicknesses millboard with a thickness of plaster between. It will take a skimming c of plaster on each side, and can be with a saw. If plastered, Thistle plas board is an excellent substitute for l and plaster.

Is a Church Building a Nuisance

W. D. writes: "It is proposed to b a church—a temporary building to be lowed by a permanent one—upon ordinary plot of land in a residential r forming part of a building estate. the adjoining owners prevent it? covenant concerned states that 'no bu ing on the land shall be erected or u for a tavern, beerhouse, or shop for sale of intoxicating liquors, nor shall building be used as a factory, nor s any noxious trade or business be car on upon the land, nor shall any cara or house on wheels or other chattel tended for use as a dwelling. . . . church building might prove a g annoyance to the occupants of the im diately adjoining houses, and in a degree to everyone else in the road. purchaser of the plot originally bougl with the intention of building a house re-sold to the present owners."

—There is nothing in the restrict quoted from the covenant to prohibit erection of a church, as such a buil hardly comes under the heading of an the prohibitions mentioned, and the ad ing owner or owners would stand chance of success even if they took l action. A church per se is not lega nuisance, nor does it cause annoya But in the event of the church autho installing a bell or peal of bells, and cient support was forthcoming from adjoining residents, an application fo injunction to prohibit the continuan the annoyance would probably be suc ful. W. S.



REQD. **PUDLO** BRAND
CEMENT WATERPROOFER

WATER TOWER, HAM GREEN, BRISTOL.

Engineer—Lessel S. McKenzie, Esq.
Engineer to the City and County of Bristol.

Contractors—Edmond Coignet, Ltd.,
20, Victoria St., Westminster, S.W.

TANKS.

The capacity of this tank is 40,000 gallons, the dimensions being 30ft. internal diameter with a water depth of 9ft. 6in. The bottom is 6 inches and the walls are 5 inches in thickness. The interior of the tank was rendered with cement and sand to which had been added 'Pudlo' Brand waterproofing powder. The result has been a perfectly watertight tank.

This is one of many hundreds of tanks which have been waterproofed with our product in the British Isles and in 59 foreign countries.

In country districts, rainwater tanks and cesspools for cottages are often built of brickwork upon a concrete floor and rendered with cement and sand waterproofed as our directions.

Send for booklet—free.

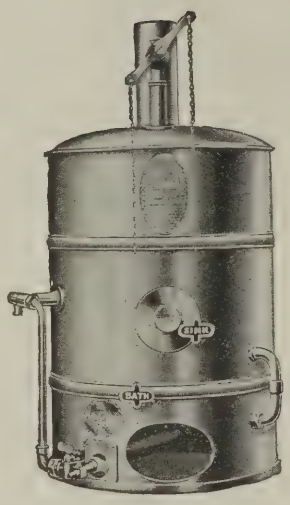
Used also for Damp Walls, Flooded Cellars, Leaking Tanks, Flat Roofs, Baths, Garage Pits, Concrete Buildings, etc.
Tested by Faija, Kirkaldy, Cork University, the Japanese, Dutch and Spanish Governments and eminent experts.
Used by the Admiralty, the War Office, the India Office, the Crown Agents, the Office of Works the General Post Office, etc.

BRITISH ! and apart from patriotism, THE BEST.

Sole Proprietors and Manufacturers, KERNER-GREENWOOD & Co., LTD., Ann's Place, King's Lynn,
J. H. KERNER-GREENWOOD, Managing Director.

PARKINSON'S

GAS APPLIANCES *for* HOUSING SCHEMES



The 'NEW COTTAGE' WATER HEATER.

'Sealed' Pattern.

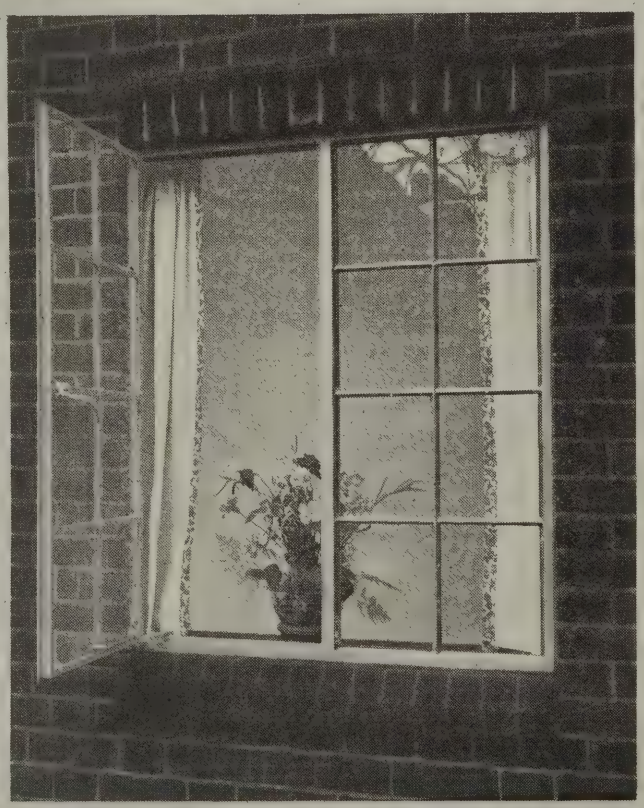
Supplies Hot Water *above* or *below* its own level.
Made of Strong Copper and cannot rust.
No galvanized iron fittings used.
All parts in contact with the water are tinned.
With Cut-out Valve closed, heats sufficient water for 'washing up,' scrubbing, etc., in a few minutes.
With Cut-out Valve open, entire contents of Cylinder (13 or 20 gallons) are heated in 30 to 40 minutes for a bath.
Extreme economy of Gas, nothing wasted in heating superflous water.
We also make an 'Open' Pattern 'New Cottage' Water Heater, for the supply of Hot Water *at* or *below* its own level.

For further particulars and prices, see our special list, or apply to :—

The Parkinson Stove Company, Limited

Offices & Works :
STECHFORD, BIRMINGHAM
Telephone: Stechford, 44.
Telegrams: 'Appliance, Birm'ngham.'

London Showrooms :
129, HIGH HOLBORN, W.C.1.
Telephone: Museum, 2256.
Telegrams: 'Gazolite, westcent, London.'



HOPES'

COTTAGE WINDOWS

Complete catalogue, with full particulars of stock sizes & details of construction, will be forwarded on application. This contains 15 designs of cottages by eminent Architects, & illustrates the application of HOPES' *Standard Cottage Windows to a large variety of material.*

The most practical & pleasant window in any situation. Low first cost—no repairs.

Apply SMETHWICK BIRMINGHAM *or 59* BERNERS ST., LONDON.

The Week's News

(Concluded from page 507).

Willesden Housing.
oans of £150,000 have been negotiated he U.D.C. for housing.

Cwmamman Housing.
fty-eight houses are to be built by U.D.C. by direct labour.

Filey Wesleyan Chapel.
scheme is afoot to rebuild Filey Wes- n Chapel at a cost of £15,000.

Housing at Burgh Heath.
en houses are to be erected by the om R.D.C. at a cost of £593 each.

Crediton Housing.
ghteen houses are to be built by the .C. at a cost of £960 16s. 9d. each.

York Minster.
fund has been inaugurated to raise 000 to preserve the fourteenth-century in York Minster.

ing Loan Sanctioned for Fleetwood.
e U.D.C. have received the sanction e Ministry of Health to a loan of ,000 for housing.

Housing at Otley.
ty-three houses, the first instalment cheme for the provision of 210 houses, o be erected by the R.D.C.

Housing at Flitwick.
out plans have been submitted for houses, and the Housing Commis- has approved 162 of them.

Housing at Newark.
e R.D.C. have decided to apply to inistry of Health for sanction to a of £50,000 for housing.

rth Riding: Isolation Hospital.
cheme is afoot to provide an isola- ospital for the whole of the North of Yorkshire.

onstructed Houses for Kingsbury.
ns of elm-constructed houses with ed roofs have, at the request of the ry of Health, been passed by Kings- (Middlesex) Council.

Gateshead Housing Scheme.
foundation-stone has been laid of st houses to be erected in connection he Corporation's £730,000 housing e.

New School for Grimsby.
nsby Education Committee have to the Board of Education for to purchase a site upon which to n elementary school.

New Theatre at Galashiels.
Frank E. B. Blanc, F.I.S.A., is the ct for the new theatre at Galashiels. anc has also designed two chancels nburgh churches.

Chapel at St. Edmund's College.
for the erection of a new memo- apel at St. Edmund's College, Old reen, have been approved by the R.D.C.

irty-eight Houses for Alcester.
cation is being made by the to the Ministry of Health for to loans of £34,500 for the erec- thirty-eight houses.

ming Baths for Handsworth.
and specifications are being pre- y the surveyor to the U.D.C. for nversion of the malt house into ing and slipper baths.

welling Houses for Bermondsey.
oundation-stone has been laid of a of three-storey flats, to be erected by the Borough Council on a site of about two acres. The cost of the set of flats, which will accommodate thirty families, will be £38,789, including the cost of roads, water mains, drainage, etc.

Glasgow Municipal Buildings.
The extension of the Glasgow municipal buildings is being pressed forward. This work was delayed by the war. Plans were prepared by Messrs. Watson, Salmond, and Gray, architects, Glasgow.

Ripon Cathedral.
A two light-stained glass window, to the design of Mr. J. N. Camper, of London, is to be placed in Ripon Cathedral in memory of the late Bishop Boyd-Carpenter.

Edinburgh University Extension.
The University are making an appeal to all the *alumni* and graduates throughout the world in order to raise £500,000, part of which is required for extensions to the University.

New Houses at Havering.
Of the 718 houses for which contracts have been signed at the beginning of the year by the R.D.C. one has been completed, sixty or seventy houses are fast approaching completion, and altogether 650 have been started

New Steel Furniture Factory at Romford.
At Romford, Essex, Messrs. Roneo, Ltd., have opened new factories for the manufacture of steel office furniture and equipment. Over £80,000 has been expended on the new factories and plants at Romford, and the official opening ceremony was performed by Mr. Frederic Wise, M.P. At present more than 50 per cent. of the workers at the new Roneo factories are ex-Service men.

Mill Hill School Memorial.
Mill Hill School's "Gate of Honour," erected in memory of Old Boys who fell during the war, was unlocked and opened on October 30 by General Lord Horne. Inscribed on the gate are the names of 200 Old Boys. It is intended that the gate shall be opened on special occasions, and the scholars pass through, doing in that way reverence and honour to the memory of the fallen.

The Late Mr. J. B. Mitchell-Withers.
The interment of the late Mr. John Brightmore Mitchell-Withers, one of the best known architects of Sheffield, who died at his residence, Heatherleigh, Oakholme Road, has taken place at Eccleshall. The Sheffield Society of Architects and Surveyors was represented by Messrs. E. M. Gibbs, J. R. Wigfull, C. F. Innocent, A. F. Watson, and W. J. Hale.

Bristol Architect's Half-a-Million Deal.
Mr. W. H. Watkins, F.R.I.B.A., architect, of Bristol, on behalf of a London syndicate, has acquired the Westminster Palace Hotel, used during the war by the National Liberal Club. The hotel occupies the triangular area in Victoria and Tothill Streets, Westminster. The frontage extends to 700 ft., and the building contains six and in some parts seven floors. In addition to the hotel accommodation there is a block of offices numbering 366 rooms.

The Threatened City Churches.
A report by the clerk and the architect of the London C.C. urges that steps be taken to preserve most of the nineteen City churches proposed for demolition. The plea is chiefly on the ground of architecture. "The churches in question constitute," says the architect, Mr. G. Topham Forrest, "some of the most interesting monuments in London." Most of them, he states, are of great value for architectural study, and as examples of an important phase in the art history of this country. From that point of view the loss which would result from the removal of more than one-third of the remaining Wren churches (eighteen having already been lost) would be irreparable.

Progress of House-Building.
Dr. Addison stated in the House of Commons that the number of houses so far built was 10,042, of which 7,448 had been constructed by local authorities and 2,594 by private persons. In addition there were 1,238 Army huts which had been converted into houses by private authorities.

Payment by Results.
The quarterly meeting of the South Wales Federation of Building Trades Employers has been held at Swansea, Mr. A. W. Julian presiding. The new code of working rules with the operatives and labourers for South Wales and Monmouthshire was considered, and the representatives were instructed to press for some amendments. A discussion ensued in regard to the shortened working hours under the forty-four-hour week arrangement, and the desirablity of bringing about an increased output through payment by results, or the introduction of a bonus system, but the further consideration of the proposals was deferred.

Coming Events

WEDNESDAY, NOVEMBER 10.
Birmingham Building Trades' Employers' Association. Dinner at Grand Hotel, Colmore Road, Birmingham 6 p.m.

NOVEMBER 10 TO NOVEMBER 22.
Architectural Association. Exhibition of Sketches and Water Colours by past and present instructors in the A.A. Schools.

THURSDAY, NOVEMBER 11.
Society of Architects.—Unveiling of War Memorial Tablet. Presidential address by Sir Charles Ruthen. 8 p.m.

SATURDAY, NOVEMBER 13.
Reopening of Wallace Collection, Manchester Square. 11 a.m. to 5 p.m.

Architects' and Surveyors' Assistants' Professional Union (Metropolitan branch). Dance at Portman Rooms, 7.30 to 12 midnight. Tickets 9s., or 17s. for a double ticket, refreshments included.

MONDAY, NOVEMBER 15.
R.I.B.A.—"The Library of the R.I.B.A.," by Rudolf Dircks, Librarian.

WEDNESDAY, NOVEMBER 17.
Royal Academy.—"The Nature and Properties of Building Materials, New and Old." 8 p.m.

Errata

In Mr. Robert F. Sherar's article on "First Principles in Building Construction," which appeared in our issue for October 27, the second paragraph of the second column beginning "First condition" should read: "The algebraic sum of the components of all the forces acting on a body taken respectively parallel to any two 'directions' must equal zero." The word "movements" in the second condition should be "moments."

Competition News

The Alexander Thomson Travelling Studentship.

The trustees of the Alexander Thomson Memorial offer a prize of £75 for the best design for "A Temple of Memory"; also a second prize of £25 should the number of competitors and the quality of the work submitted be such as to warrant, in the opinion of the adjudicators, an additional prize being given. The competition is open to architectural students between the ages of nineteen and thirty-four years residing in the United Kingdom.

The "Temple of Memory" is to be a detached building within the limits of the site shown in the sketch plan. The surroundings, street, etc., to be approximately as indicated, and the lay-out to be part of the scheme.

The definite requirements are: That the design be in accordance with the principles for the study of which the studentship was founded; that the area of the building proper, i.e., excluding steps, does not exceed 20,000 square feet; a hall of victory not to exceed 7,500 square feet, two smaller halls for the display of relics and trophies, each not exceeding 3,000 square feet; cloak rooms; caretaker's office; and that the principal entrance should face south.

The following suggestions and non-binding conditions are also given: Memorial primarily intended to be non-sectarian in character and to commemorate both the sacrifice of the fallen and the victory attained; provision may be made for those desirous of quiet meditation, undisturbed by traffic of ordinary visitors, either by one large or several small screened annexes to the hall of victory; the hall of victory to be lighted from above or from clerestory windows. The lower walls to be utilised for record tablets, etc.; the decorative treatment with symbolic paintings, either by way of frieze or panels, to be studied in due relation to the architectural scheme; a portico or vestibule may be provided and utilised for the display of symbolic sculpture.

The drawings required are: Block plan to scale of 1-32 in. equals 1 ft; ground floor plan, three elevations, two sections, all to scale of $\frac{1}{8}$ in. equals 1 ft. Detail drawing showing part exterior and part interior to scale of $\frac{1}{2}$ in. equals 1 ft. One exterior perspective and one interior perspective, width of building not to be more than 16 in. All the drawings excepting $\frac{1}{2}$ in. detail are to be on imperial sheets, 30 in. by 22 in. The $\frac{1}{2}$-in. detail may be of any size up to double elephant. The drawings may be in any medium (on geometrical drawings, the shadows to be projected at 45 deg.) and must be mounted, but not framed or glazed.

The drawings are to be without motto or distinguishing mark of any kind, but each set must be accompanied by a plain sealed envelope containing the name and address of the competitor, together with a certificate of his birth, properly attested, and a statement, in writing, that all the drawings submitted are bona fide his own work. The drawings are to be delivered by April 15, 1921, to C. J. MacLean, 21, West George Street, Glasgow, secretary to the trust, from whom full particulars may be obtained. The successful competitor shall, within two years after receiving intimation that his drawings have been placed first in order of merit, be required to go on a sketching tour for a period of three months in order to pursue his architectural studies. The competitor placed second, should this prize also be awarded, shall in like manner be required to spend a period of three weeks in making drawings from reproductions of classical buildings in the British Museum, London, or elsewhere; or in study of a classical building for a like period to the satisfaction of the trustees.

The studentship or prizes which are awarded by competition every third year are for the furtherance of the study of ancient classic architecture, practised prior to the commencement of the third century of the Christian era, and with special reference to the principles illustrated in the works of the late Alexander Thomson.

General Hospital, East Ham.

The East Ham Hospital Committee invite designs for a new general hospital to be erected in Shrewsbury Road, East Ham, at a cost of £40,000. Mr. George Hubbard, F.S.A., F.R.I.B.A., will act as assessor. The author of the winning design will be appointed to carry out the work, and premiums of £75 and £50 will be awarded to the authors of second and third designs. Full particulars may be had on application to Mr. Ernest Richardson, hon sec., "Montfitchet," 296, Katherine Road, Forest Gate, E.7. signs to be sent in by February 25.

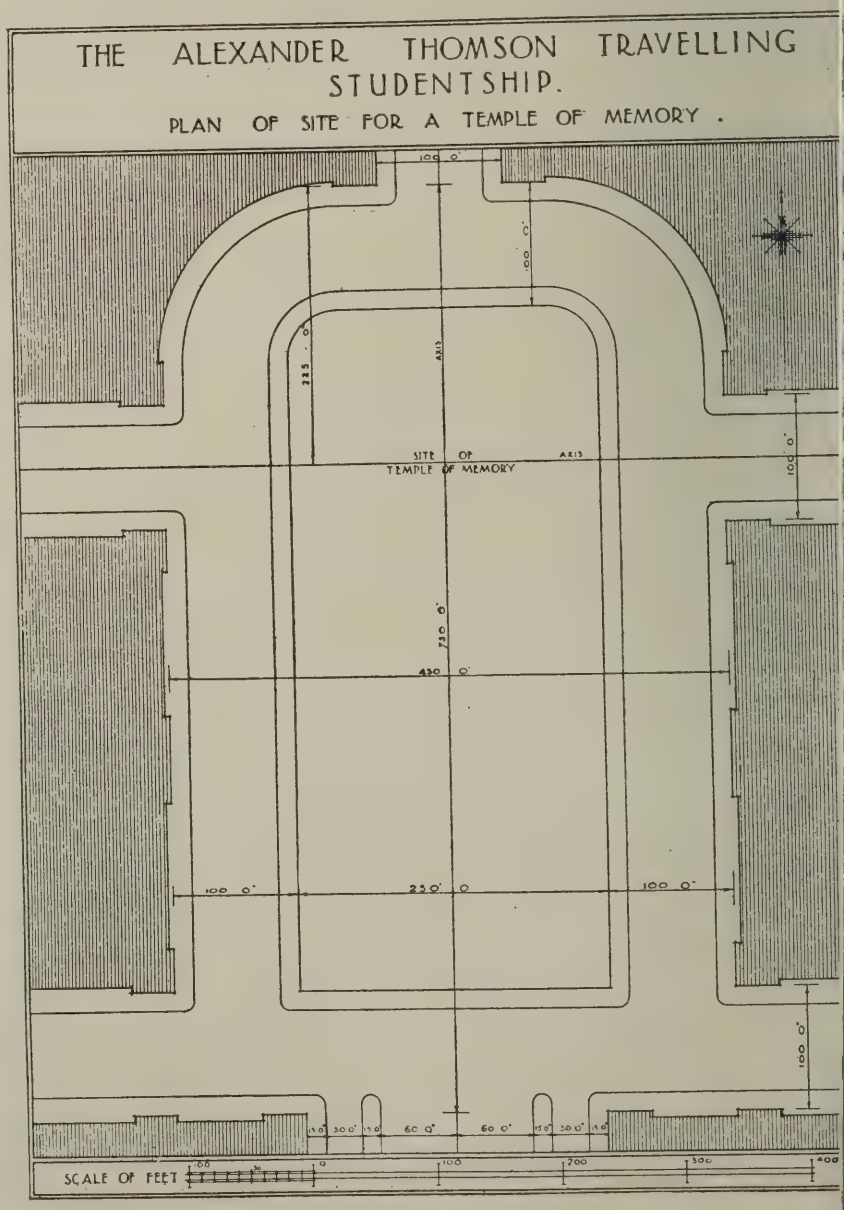
Llandudno War Memorial.

The Competitions Committee of R.I.B.A. call the attention of Mem and Licentiates to the fact that the ditions of this competition are unsati tory. The Committee are in negoti with the promoters in the hope of s ing an amendment, and in the mean advise their members to take no pa the competition.

Members of the Society of Architect requested not to take any part in above-named competition without ascertaining from the society that conditions have been approved b Council.

Other Competitions.

Other competitions open are for a Memorial at Lockerbie, a Cenotap Gateshead (blacklisted by the R.I.B. new High School at Glasgow, a n ment at Liége commemorating the fence of Belgium against the Ger and a Licensed House in a Large T The conditions for the last-named c tition may be obtained from the Sec of the R.I.B.A., 9, Conduit Street, on deposit of £2 2s. For further pa lars of these competitions readers s refer to last week's issue.



No. 44.

SANKEY'S PIPES.

We hold large and complete stocks of pipes, gullies, interceptors, sinks, manhole covers, etc., of all shapes and sizes and can give prompt delivery by our own lorries 50 miles round London or by truck to any Station in the United Kingdom.

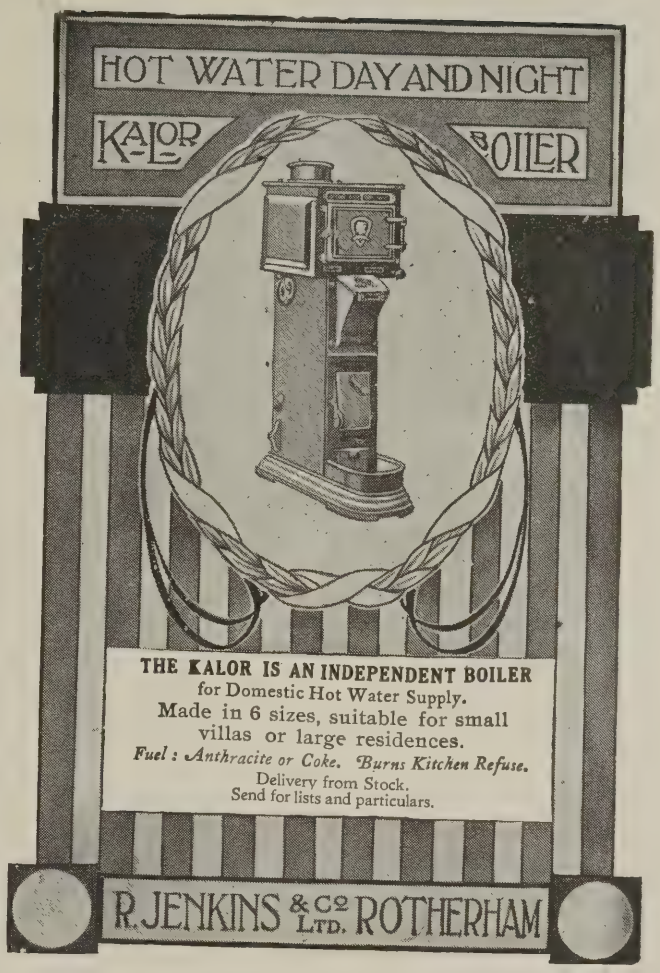
We have several improvements of our own, especially our deep intercepting gully, which prevents drains blocking, or becoming unsealed. Our improved self-aligning glazed stone ware sink traps have many advantages over the old lead traps.

May we ask you to put our name on your Buyers' List under "Pipes and Sanitary Fittings"? We shall be pleased to send you our fully illustrated catalogue on request.

We also stock Cements, Lime, Slates, Tiles, Fire Bricks, Fire Clays, etc., etc.

J. H. SANKEY & SON, LTD

Estd. 1857. HEAD OFFICE, Essex Wharf, Canning Town, London, E.16.



CRANE

PIPE FITTINGS

in

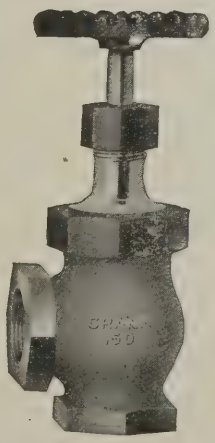
Malleable Iron, Wrought Iron, Soft Cast Iron — Black and Galvanised

GUNMETAL

"EVERYTHING FOR ANY PIPE LINE"

For STEAM, WATER, AND GAS

VALVES AND COCKS



GUNMETAL and IRON (Screwed and Flanged).

PLUMBERS' BRASSWORK.

PIPE HANGERS, PIPE FITTERS' TOOLS.

Distributors of HEATING AND SANITARY MATERIALS.

CRANE-BENNETT LTD

45-51, Leman Street, London, E.1.

Telephone: 2-5 Avenue (4 lines).

Telegrams: "Spruceness 'Phone, London."

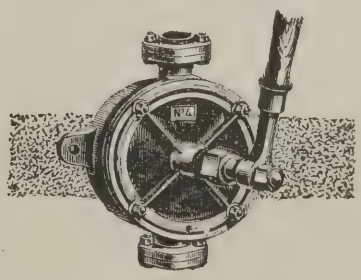
PUMPS

Willcox's SEMI-ROTARY "WING"

For House and Estate water supply, and general lifting and forcing. Double or quadruple action. Mounted or unmounted.

Other Specialities: Diaphragm Pumps for Trenches, Excavating, etc.; "Jones-Willcox" Patent Wire-bound (non-rubber) Hose; "Penberthy" Automatic Cellar Drainers.

Let us quote for your requirements.



W. H. Willcox & Co. Ltd.

32-8, Southwark St., London, S.E. 1.

CONTENTS.

Edited by PROFESSOR A. E. RICHARDSON, F.R.I.B.A.

Notes and Comments: A Great Architectural Competition; Bureaucracy and Housing; Building as an Art, 533; The "Builders' Parliament" Crisis; The Memorial to London Troops; Moving Statuary; Shadwell Park; Ancient and Modern ... 534

The Cenotaph and Its Architect ... 535

The Week's News 536, 558

Architectural Causerie: Soane and the Bank 537

Accounts for Housing. By Geo. W. Grey, F.S.I. 538

Construction. 13.—A Wide-span Garage Roof 541

Publications Received... 542

Additions to Park House, Marden, Kent 542

Unification, Registration, and Housing. By Sir Charles T. Ruthen, O.B.E., F.R.I.B.A. ... 545

Birmingham Architectural Association 546

Architects' Paris Conference ... 551

Enquiries Answered 551

Law Reports 552

The London Society's Development Plan 552

Correspondence 555

Housing Enterprise at Liverpool ... 556

Competitions Open 557

Competition Awards 557

Coming Events 557

Trade and Craft 558

Current Prices of Materials ... xix, xx

Complete List of Contracts Open xxii, xxiv, xxvi

ILLUSTRATIONS:

Karl Frederick Schinkel ... 531

War Memorials. 6.—The Cenotaph, Whitehall. (From a Drawing by Hanslip Fletcher). Sir Edwin L. Lutyens, A.R.A., F.R.I.B.A., Architect 532

Portrait of Sir Edwin L. Lutyens 535

Soane's Design for "New Bank Buildings," fronting Princes Street, London ... 537

Italian Villas. 2.—Selected Examples from Scheult ... 539

Details of Wide-span Roof Truss Construction ... ...

Interior of a Garage, showing Wide-span Roof Truss ...

Plan of Additions to Park House, Marden, Kent ...

Modern Domestic Architecture. 22.—Additions to Park House, Marden, Kent. Geoffrey T. Mullins, A.R.I.B.A., Architect

Portrait of Sir Charles T. Ruthen, O.B.E., F.R.I.B.A., President of the Society of Architects ... ...

Portrait of Mr. Herbert T. Buckland F.R.I.B.A., President of the Birmingham Architectural Association ... ...

Modern Domestic Architecture. 24.—House to be Erected near Wimbledon. L. Sylvester Sullivan, A.R.I.B.A., Architect 548,

War Memorials. 7.—An Oak Panel. Halliday, Paterson, and Agate, Architects ...

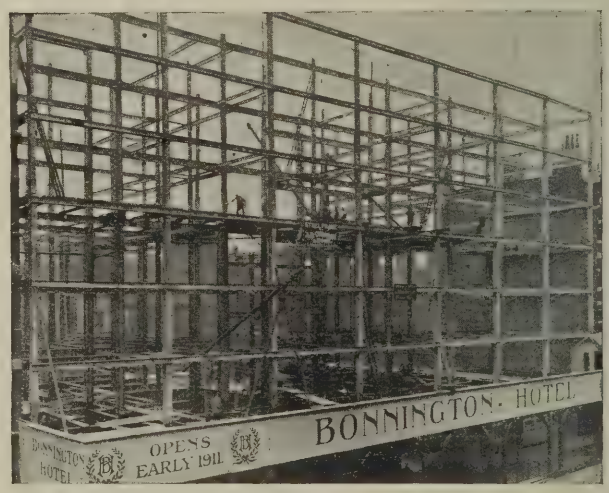
Garston Housing Scheme, Liverpool: Plans and Photographic Views 556,

DAWNAY DEFINITIONS—4.

SERVICE

SERVICE, as we offer it to you, means the closest attention to detail, rigid adherence to promised delivery dates, and all those things which when backed up by perfect material produce the perfect reason for you to send us your enquiries for constructional material.

STOCKS OF British Standard Sections in Joists, Channels, Angles, Tees, Flats, etc.



ARCHIBALD D. DAWNAY

AND SONS, Limited.

Telephones: Battersea, 1094 (3 lines).

Steelworks Road, Battersea, S.W.11

Telegrams: "Dawnay, Battsquare, London."

Telephone: Cardiff, 2557.

And at East Moors, Cardiff.

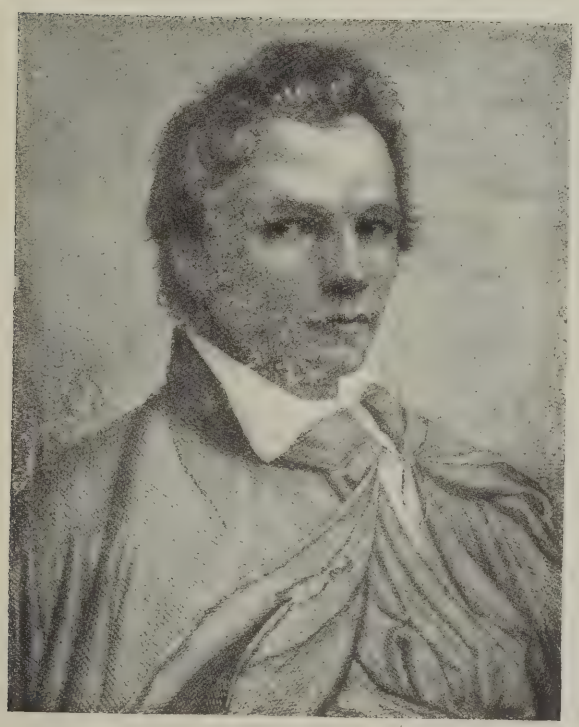
Telegrams: "Dawnay, Cardiff."

nesday, November 17, 1920

Volume LII. No. 1350

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



Karl Friederich Schinkel was born at New Ruppin, in Brandenburgh, on March 13, 1781. After pursuing his studies at the Gymnasium of Berlin, he commenced his architectural education at the early age of fourteen under David Gilly. Between 1823 and 1829, he was engaged with the design and erection of the old Museum, Berlin, which proved to be his masterpiece. He assisted very considerably in the development of the Neo-Classic style in Germany.

27-29 Tothill Street, Westminster, S.W.1.

War Memorials. 6.—The Cenotaph, Whitehall

Sir Edwin L. Lutyens, A.R.A., F.R.I.B.A., Architect

From a drawing by Hanslip Fletcher

By courteous permission of "The Daily Telegraph."

The permanent Cenotaph in Whitehall, unveiled on the occasion of the Armistice anniversary celebrations last week, is well represented in Mr. Hanslip Fletcher's sympathetic drawing. The subtle refinements of the famous memorial have eluded nearly all the artists who have attempted a portrayal, but it is apparent that they have not escaped the searching eye of Mr. Fletcher.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

:dnesday, November 17, 1920

Volume LII. No. 1350

Notes and Comments

Great Architectural Competition

NOT since the Canberra fiasco has there been an architectural competition at all comparable in magnitude to that which, by the courtesy of Mr. John W. Simpson, .I.B.A., who has been called into consultation by the yptian Government, we were able to announce last k. The cost of the hospital which the Egyptian ernment contemplate building is expected to exceed illion pounds sterling, and the twelve architects will be selected for the final competition will ive between them no less than 6,500 guineas, of ch 4,000 guineas will go to the second-premiated gn. Presumably the author of the first-premiated me will be invited to supervise the work, in which he will receive, besides the competition honorarium 00 guineas, fees in accordance with the R.I.B.A. e. By its wisdom in seeking competent architectural ce at the very outset, the Egyptian Government ensured itself against the worry and annoyance that dogged the Canberra scheme from its inception now. All that trouble arose, it will be remembered, ugh the self-sufficiency of the Government pro- ers of that luckless competition. They set them- s in obstinate opposition to representative archi- ral opinion, turning a deaf ear to courteous and nable remonstrance against irregular and ill- sed conditions, particularly the proposals for sment. They have reaped as they have sown; and visdom of the Egyptian Government will assuredly forth fruit after its own kind. To the six finalists indicated by the result of the preliminary competi- will be added six more to be nominated for their e in hospital practice; and as the scheme is to de schools providing for medical, dentistry, and nacy students, it would be well if the ultimate er or winners of the competition were empowered ake tours of inspection to the chief modern hos- s and hospital schools in existence, and to confer with eminent medical men and other specialists. e result, the projected Egyptian hospital and schools d be not only the largest but the best in the world.

Bureaucracy and Housing

Charles Ruthen, in his presidential address to the ty of Architects, gave a very clear summary of the nt position of the Profession, but devoted a dis- rtionately large amount of attention to the ng question. There is no denying the serious y of the housing question, but we must allow it to exclude other interests that are ual importance, and on which, indeed, the suc- l solution of the housing problem largely depends. to cry "Stop every sort of building except hous- is not statesmanlike the President of the Society well aware, for he says explicitly "That there is building work absolutely necessary for the industrial and commercial prosperity of the Empire I agree." To this he immediately appends the odd question, "but which work shall cease, house building, or other building?" Apparently he thought it unnecessary to reply "Neither; for if a lopsided social issue is to be averted, all kinds of building must go on *pari passu* and in due porportion." He knows this well enough; and by making the admission plainer he would have strengthened his cogent plea that "It is the serious business of the architectural profession as a whole to address itself to this great and vital problem—to organise in some manner the three great sections of this important national industry—the worker, the employer, and the architect." He considers, moreover, that "as the outbreak of a great plague would demand the immediate attention and service of the members of the medical profession, so this vital housing problem demands the service of the architectural profession and all the members of the great building industry." It should not be difficult to secure this disinterested co-operation in the national interest. What is preventing it is the bureaucratic régime—the misguided assumption that a Government Department is competent to control the building industry and to conduct the housing campaign. We are not attacking the Ministry of Health. It has done quite as well as could be expected. It is not the Ministry but the system that is at fault; bureaucratic administration is alien to the spirit of the race, and with respect to housing the best possible service that Dr. Addison could now render the country would be to set the building industry entirely free to follow its normal courses. Not that he should wash his hands of the whole affair and stand austerely aloof from it. The experience he has acquired, the staff of experts he has gathered about him are too valuable to be wasted; but the functions of the Department should be no longer executive, but should be purely advisory. Will the Society take steps to form the co-operative council that their President suggests?

Building as an Art

At the annual dinner of the London Master Builders' and Allied Industries Association, two architects—Mr. G. Gilbert Scott, A.R.A., President of the Architectural Association, and Sir Charles Ruthen, President of the Society of Architects—made short but interesting speeches. Mr. Scott, we were glad to find, deplored the "lack of cohesion" between builders and architects, urging that greater co-operation between "those concerned in the two arts" was essential. Why "the two arts"? Did Mr. Scott mean the art of architecture and the science of building? There is no need, we think, to claim for him the indulgence always conceded to after-dinner oratory. Mr. Scott's choice of words could be successfully defended. It could be shown without much effort that art enters freely into the work of the builder; and Mr. Scott's use of the word has the express authority of the dictionaries. Webster, for example, has this definition of art: "The general principles of

any branch of learning or of any developed craft; a system of rules or of organised modes of operation serving to facilitate the performance of certain actions; as, the art of building" . . . It is rather fortunate that Mr. Scott made this perfectly just application of a word which is too often used in a much narrower sense. It would be prolific of good deeds if every man engaged in the building industry were to get the good conceit of himself that he follows an art. Only in this way can men take a proper pride in their work. To get the best out of a man, it is necessary to convince him that he is an artist; while the master-builder who has this plenary faith in his business is the one who, more than another, is likely to co-operate sympathetically with the architect. The concession came with peculiar grace from the consummate artist who designed Liverpool Cathedral. The "lack of cohesion" he mentioned was emphasised —unintentionally, no doubt—by Sir Charles Ruthen's reference to the untoward fact that his Society, the Institute, and the Master Builders, have, between them, produced three separate, distinct, and in some respects antagonistic forms of contract! This is not cohesion. It is more like collision, and there is but little art in it. Here, reversing the request of Hamlet's mother, we want "More art with less matter."

The Memorial to London Troops

If distinguished names were a guarantee of æsthetic success, the memorial to London troops which was unveiled by the Duke of Connaught in front of the Royal Exchange last Friday should be a triumph of art. Sir Aston Webb, P.R.A., having designed the monument, and Mr. Alfred Drury, R.A., having executed the sculpture, the product of such a combination of talent ought to be something of which Londoners would feel very proud for æsthetic as well as for historical reasons. We wish very sincerely that we could see substantial grounds for rejoicing on the former count; but, to be candid, as we are in duty bound to be, the best we can say for the monument is that there may be some possibility of acquiring a taste for it. For the moment, we feel an equally pronounced dislike of its heraldic symbolism and its crude lapse into uncompromising realism with its carved images of two soldiers of the London regiments. That these are very finely modelled is not to the point. One feels that they ought not to be there. As for the heraldic monster crowning a pedestal that has had to be kept slender so that it should obstruct as little as possible of the view of the Royal Exchange portico, the best excuse is that heraldic figures never look well in the round. To place a purely regimental monument in front of the Royal Exchange is a mistake. Were it not for sea power, the Exchange would not be there; and yet, seemingly, no one had the wit to suggest that the monument should most certainly not have ignored the Navy—that is to say, it should not have been a memorial to London regiments, but to City men serving in all the Forces.

Moving Statuary

When the Saint-Gaudens statue of Abraham Lincoln in Parliament Square was unveiled, it was seen that there was an empty seat behind him. Thereupon somebody who knows the peripatetic habits of London statues said he supposed that Lincoln was inviting the other effigies to a game of "musical chairs," to accelerate slightly the frequent movement from one site to another. In the report of the advisory committee of the Mansion House King Edward Memorial Committee, it was stated that an agreement had been entered upon with Mr. Bertram Mackennal, A.R.A., to provide a bronze equestrian statue of his late Majesty, with a granite pedestal, for £10,500. This statue is to be erected in the open space between the Athenæum and the United Services Clubs, on the spot now occupied by the statue of Field-Marshal Lord Napier of Magdala, which, the Committee understand, will be remove a site close by. Lord Napier has had a fairly long He was put up in 1890; but this particular spot ha late years seen many changes. It is the site of Car House, and near it the Crimean group was in shifted a few feet to allow Sidney Herbert to come from the War Office as a partner for the new statu his old friend Florence Nightingale.

Shadwell Park

In 1914 the Mansion House King Edward Mem Committee acquired from the Corporation of the of London, for £70,000, the site of the obsolete S well Fish Market, the Corporation accepting half sum they had themselves paid for it, this moiety b accepted on the understanding that the site shoul converted into and retained for ever as a public Of course the scheme was paralysed by the war, now, on its revival, the financial side of the que is causing trouble. A rather important feature o scheme was to be the erection of a river wall, but i now been agreed that this must be omitted, and a substituted. This is a pity, because a riverside never seems quite happy, whereas a wall in that pos serves to convey an assurance of safety and stabi and in no case can a fence ever look as dignified wall. Certainly we agree with the remark by William Pearce, M.P. for Limehouse, that "it thousand pities that that part of the scheme provi for the erection of a magnificent riverside wall had left out"; and everybody will join him in the that some wealthy and patriotic Londoner will see that the East End shall not have its scheme degr by this omission. Spare the wall and spoil the Para

The "Builders' Parliament" C

During the discussion on the proposals of Thomas Foster's proposals for the future condu the building industry on ultra-Whitley lines, Council, or so-called Builders' Parliament, se several times in danger of dissolution. At the critical moment, which occurred last Friday, nea end of the debate, Mr. Stranks of the Stonema saved the situation with a motion referring bac highly contentious report, which, it is hoped, may mately be shaped and trimmed into something that parties will be able to accept; for without the co-o tion of employers and employed, no scheme of re can possibly take effect.

Ancient and Modern Building

The Reading Room at 29, Tothill Street, is jus redolent of classicism, and there is at first some incongruous in the juxtaposition of such subjects Roman Baths, vividly reconstructed in the W etchings on the wall, and modern housing equip illustrated with an equal completeness in the book papers on the tables beneath them. The Wooden of Troy looks down with, one fancies, some ast ment on reproductions of present-day monur while the House of a Patrician asks dumbly manual of Concrete Construction whether they bu better in their day. And yet there is a strange fitr this bringing together of old and new. The Re Room is pre-eminently a place for study, w architects, designers, craftsmen, may gather know on every matter pertaining to their work, whence haps, they may cull inspiration for high a achievement in the future. Every period of archit contributes its quota towards enriching the work day, and those who are gaining increased fami with the Walcot classical compositions will be th to insist upon their practical value to the m architect.

The Cenotaph and its Architect

REBUILT in stone, the Cenotaph has now taken its place among the permanent monuments of the Metropolis. Whether or not it is in the best interests of art to perpetuate a design ose original purpose was solely to satisfy the pass- requirements of peace ceremonial, must remain gely a matter of opinion. Certain it is, however, the Cenotaph immediately captured the heart and gination of the public, whose urgent plea for its oduction in permanent form could not possibly be ied. Whether it will receive the homage of future erations who know not the intimate sorrows of war, pen to speculation; but there is small likelihood that ill ever lose its hold upon the present generation, to m it has become the very symbol of sorrow and ifice.

/hat is the secret of its appeal? To the great ority of those who pass before it, it must represent ofoundly moving idea, and nothing more; few, bably, are conscious of any æsthetic impression. se few, we may imagine, are affected by its austere licity—its impressive expanses of white surface, ely free from conventional ornament. In other ds, its negative qualities (if so they may be called) st it with positive effect. Not that the monument erely a pile of carefully contrived masonry; it is itely more than that. It is full of subtleties that e all but the most careful of observers. Nearly all ictorial renderings of it are inaccurate. Offsets are n where they do not exist, and the proportions generally are misapprehended. It is made to look like a thing of hard-ruled lines, when, as Sir Edwin Lutyens has lately informed a representative of the Press, it is actually full of subtle curves. All these refinements contribute to its total effect; and that it leaves a peculiar and lasting impression upon all who possess a sense of the æsthetic cannot be doubted.

SIR EDWIN L. LUTYENS, A.R.A., F.R.I.B.A.

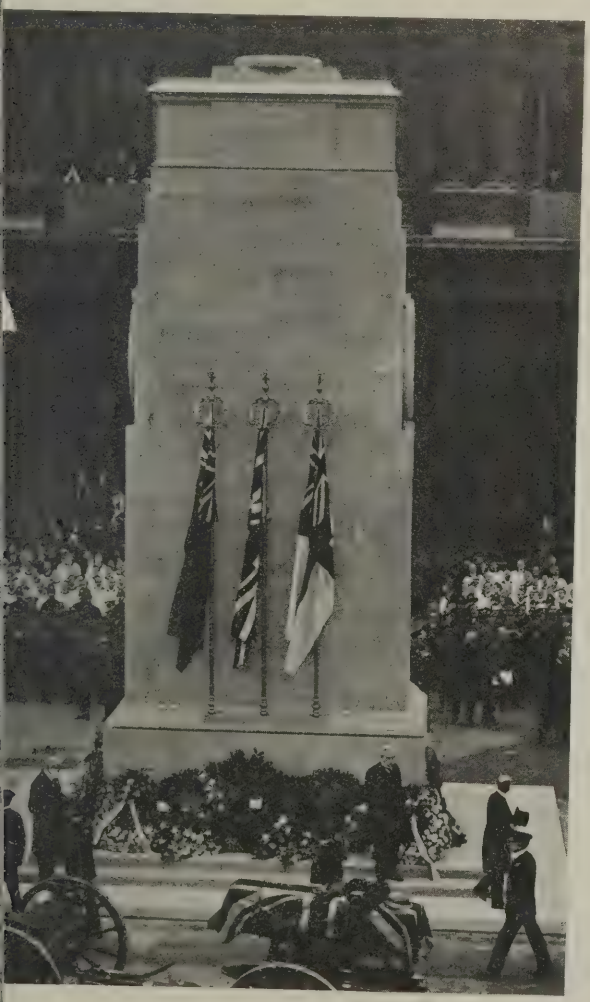


Photo: Topical.

CENOTAPH, WITH THE REMAINS OF THE UNKNOWN WARRIOR PASSING BEFORE IT.

On a small point of criticism, it seems to us that the stone "laurel wreaths" on the narrow faces of the shaft would have been more effective in bronze.

Sir Edwin Lutyens, who deserves the grateful thanks of the nation for evolving a monument so perfectly adapted to the national temperament, is one of the most pervasive and prolific of English contemporary architects. That he is an artist is equally manifest in his buildings, which are distinguished by a peculiar charm and individuality of character. In the production of delightful domestic work he is perhaps unequalled in our own time—witness such mansions as Marsh Court, Stockbridge; Heathcote, Ilkley; and a score of others; while in the realm of monumental design, such fine works as the British School at Rome, the Art Gallery and Rand Regiments Memorial, Johannesburg, and buildings for the new Delhi stand to show his extraordinary capacity. He has also been responsible for many important restorations, as at Lindisfarne, Howth, and Lambay; and he has planned many beautiful gardens, including those with an orangery at Hestercome, Somersetshire. His St. Jude's and Free Churches, Institute, and houses in Central Square, are familiar to all who know their Hampstead Garden Suburb.

Sir Edwin Lutyens was born in 1869. First articled to a country architect, he was afterwards with Mr. (now Sir) Ernest George, A.R.A., beginning to practise on his own account in 1888. He married, in 1897, Lady Emily Lytton, daughter of the first Earl of Lytton. G. J. H.

The Week's News

Wallace Collection Reopened

It will be some time yet before the Wallace Gallery and all its marvels of art and beauty can be seen again in their entirety, but it will be obvious to all visitors this week that a great opportunity has been seized by an enlightened Government Department, acting in harmony with an art director, who is the first to admit that he has been allowed a freedom and discretion not possible to be enjoyed by his distinguished predecessor when the Wallace Gallery was first opened twenty years ago. In establishing the "fire-proofing" of the glazed roofs in five of the chief galleries (XIV.-XVIII.) Sir Frank Baines and his Office of Works staff took counsel with Mr. D. S. MacColl, the director, to overcome the former defective lighting due to double-glazing in the centre and to the height of the walls being too great for their width. Careful study of the proper angles of incidence in the light resulted in the solution of lowering this height by four feet and of directing the light from the sides so as to fall upon the picture zone and not upon the spectator. Next the considered policy was adopted of substituting light backgrounds for the old crimson or dull green. Light is thereby reflected instead of being absorbed, an advantage at once self-evident, especially on a London winter's day. These light backgrounds of canvas with a golden ivory tone, moreover, do not challenge, or interfere with, the colour harmonies of the pictures. By the conversion of the top floor (the old bedroom quarters of Hertford House) into serviceable top-lit rooms, excellent accommodation has been provided for the water-colours and miniatures and for the secondary pictures of modern schools which used to defeat the purpose of conscientious hanging. Increased exhibition space has also accrued from the closing of superfluous doorways in the various galleries.

The Builders' Parliament Meeting

An important meeting of the Industrial Council for the Building Industry was held on Thursday and Friday last week. The most interesting feature of the conference was a debate on the recommendations of the Costs and Management Committee. The Majority recommendations included a most revolutionary proposal involving nothing less than the conversion of the building industry in a national guild, in which the employers were to be remunerated in two capacities—managers and capitalists. As managers they were to be paid their proved market value. As capitalists their fixed and working capital was to be exchanged for National Guild of Builders loan stock certificates, bearing a limited rate of interest, but not conferring voting rights. This recommendation assumed great importance from the fact that it was adopted by three of the employer members of the Costs and Management Committee, and was proposed to the Council by Mr. Thomas Foster, chairman of the committee, himself an employer.

Criticising the report, Mr. Moffat (Birmingham) contended that the application of two-thirds of the report would mean a still further increase to the community in the cost of building. "Is it," he asked, "no danger to the industry that no labourer can ever dream of being anything other than a labourer?"

Mr. Stranks (Operative Stone Masons) proposed that the subject be again considered by the committee in the hope of finding a more general agreement between the two interests represented on the council. He considered that it would be lamentable if they had to "scrap" the council simply because they were faced with a vital problem on which they could not come to an agreement.

Mr. Samuel Smethurst, the chairman of the Minority Committee, in seconding, remarked that he believed that they could not equal employers in the building industry either in altruism or service to the State, but to his the majority report was inviting failure and pos disaster to the community.

Mr. Pickles, of the Operative Painters, declared the workers were not going to accept any principles as profit-sharing, which meant working hard for an penny in order to bring to the employers an extra p He warned the employers that the trade union le were not encouraging workmen forward, but tryi hold them back. Their meetings throughout the co were simply seething with discontent. The wo leaders who were constitutionalists offered an alter against individual competition and wastefulness. " he added, "the employers are determined there sh no bridge over the chasm."

Mr. Thomas Foster, in reply, urged that the aw merit should follow the test of service to the comn as a whole. They denied that their scheme ask employers to commit suicide; rather was the dange they might be killed.

The resolution that the subject be again discuss the committee was unanimously agreed to.

The scheme for the education and improvem apprentices in the industry, submitted by the Edu Committee, was accepted. A communication wa from Mr. H. A. L. Fisher, Minister for Educatio gratulating the council upon their efforts to stimu pride in craftsmanship. Mr. Fisher hoped that th duction of the scheme would encourage other ind to interest themselves.

It was reported that Dr. Addison had intimat intention to set up a committee to consider the ques the present high cost of building, and invited the of gentlemen to serve on it.

Commenting on the report of the Resettlement mittee with regard to the augmentation of labou Gibson, of the Operative Painters, said that so far painting trade was concerned they would not con such a scheme of apprenticeship in any shape o They considered that there was quite sufficient lab the work to be done on the housing schemes so fa painting trade was concerned. The suggestion wa that the Resettlement Committee should be disb and the chairman replied that if they took such a the building industry would be confronted by a fa difficult situation than it had ever faced. The rep accepted, and the proposal to disband the commit not proceeded with.

A Bell-tower for Ypres

It is proposed that the British memorial to be s Ypres salient shall take the form of a bell-tov sum of £2,000 is promised for a peal of bells, a suggested that the tower to carry them shall be m on the Victoria tower at Westminster. As a m sentiment, this proposal has much to commend regarded æsthetically, it is appalling. Barry's (Pugin "with him," as they say in the law) does n pare favourably with the Belgian work which s have inspired it. His biographer says: "The to of Belgium occurred to him, and he went over country to see and to admire them, especially Brussels and Louvain. They recurred to hi wards as examples of visible roofs, and genera ment. But at the time they did not affect his which was mainly 'castellated,' with embattle pets, concealed roofs, and an absence of all spir character depends much on its imposing size, does not like to see it reproduced in miniature. to make a small bell-tower, it would not do much the occasion.

(*News continued on page* 558.)

Architectural Causerie: Soane and the Bank

THE current threat to extend the Bank of England in Threadneedle Street recalls that in 1808, when the important works at the Bank of England were attracting the attention of Charles Lamb as well as of the general crowd of Londoners, Soane addressed his ductile talent to the development of the site fronting the Princes Street façade of the Bank, and prepared a design for "New Bank Buildings," which were completed in 1810. In this group the versatile architect aimed at an original treatment, with pylons at each end formed of twin projecting columns. The grouping suggests the unrolling of a scroll of parchment, on which a series of windows goodly in proportion are arranged. This design lacks a central sub-motif of suitable scale at the level of the basement storey. The semicircular porch is not convincing, while the attic storey would have been the better for a slight cornice and parapet. This interesting range of buildings was demolished about seventy years ago, when the highly respectable stuccoed premises now existing were put up.

* * *

Although Soane, who was architect to the Bank from 1788, impressed the building with its architectural character, it was George Sampson who, in 1732-34, erected the central part, giving rise to a frivolous jest as to what would happen to a bank shorn of Sampson's locks. What actually happened, so the legend runneth, was that some enterprising person undertook to prove, and did actually prove to the Governor and Company assembled in a cellar at his invitation, that thieves might break in and steal by a very simple process of undermining. It was immediately thereafter, one may safely assume, that mechanical genius was set to work to devise the forerunner of the modern strong-room.

Before Sampson made a home for the Bank, its business was conducted first in the Mercers' Chapel, which occupies the site of a hospital that was erected late in the twelfth century to the memory of Thomas à Becket, who was born near this spot in 1119. Henry VIII. gave the hospital to the Mercers, who are one of the richest of the City Companies, and have spent large sums on education and other forms of charity. Afterwards the banking was done at Grocers' Hall, or "the guild house of the Pepperers." Location at the Mercers' may (or may not) have given rise to the delicate saying about a lady's fortune that "she hath a long stocking," largely superseded later by "she hath a pretty plum," meaning good store of gold at the Grocers'.

* * *

It was on the death of Sir Robert Taylor, in 1788, that Soane was appointed architect to the Bank of England—an appointment that marks the beginning of his extraordinarily successful career as an architect. His task—the enlargement and virtual rebuilding of the entire group of bank buildings—was one that presented many grave difficulties due to the shape and character of the site. Soane's treatment of the problem is on the whole satisfactory: his screen walls help the bank to present a formal front to the outer world, and at the same time hide some awkward internal angles and intricacies of planning. If his adaptation of the Roman Corinthian order from the Temple of Sibyl at Tivoli has lost something in the handling, it is in any case full of interest. It is upon the Bank buildings that Soane's reputation now chiefly rests, for all his other important buildings in London have been since either much altered or completely demolished. Long may the Bank be preserved from that melancholy fate.

AERO.

SOANE'S DESIGN FOR "NEW BANK BUILDINGS," FRONTING PRINCES STREET, LONDON.

Accounts for Housing Schemes

By GEO. W. GREY, F.S.I.

THE accounts of all contracts, since the war, have become more complicated owing to the constant rise in the cost of materials. Contractors refuse to take the risk of rising prices, and the Ministry of Health's form of contract, published in August, 1919 (D88), and their revised form of contract, published in May, 1920 (D88a), place the risk of fluctuation in the cost of materials, and of rises in rates of labour, upon the building employer.

These forms of contract provide for schedules, and state that the prices on the schedules shall be deemed to be the prices ruling at the date of tendering. These schedules are supplied to the contractors with the quantities when tenders are invited, and are either supplied fully priced out, or partly so, leaving the contractors to rate those items left blank at the prices at which he is prepared to supply the materials, or they may be supplied, without any rates, to the contractors, who fill in their prices for all the materials.

The contractors use these prices as a basis upon which to make their tenders, and they are entitled to any increases in cost over them, the building owner being credited with the difference should prices fall. In most pre-war contracts it was not usual to make advances upon materials unfixed. The Ministry of Health's form of contract states that advances shall be made upon the value of all work, etc., and materials delivered on the site.

Advances and Adjustments

When certifying for advances, in addition to the adjustments required due to any rise in the cost of materials and the value of the materials on the site, a further complication will follow if goods have been supplied by the Director of Building Materials Supply. The "Director of Building Materials Supply" is the term applied to a Government body of middlemen who supply building materials for housing schemes. The contractor, in his estimate, should have included for all material, but the building employer, not the contractor, pays for materials supplied through Government sources. In the schedules the materials appear as on rail, at the station nearest to the housing scheme, and the manufacturer or merchant is paid for them by the D.B.M.S. free on rail. The building contractor pays the railway charges, and is credited with the amount of his payment, but debited with the cost of the goods.

Materials purchased through the D.B.M.S. make settlement of accounts very involved. The goods are ordered by the contractor, the order being signed by the "accredited representative of the building owner," and sent to the D.B.M.S., who advise both the contractor and the building owner's representatives that goods have been ordered on their behalf from a particular manufacturer. Often the manufacturer is not able to supply, and, to keep going, goods are bought from other sources. This makes adjustments very complicated, inasmuch as the contractor, who is the receiver and user of the goods, does not pay for them; in fact, their cost is deducted from his tender, and he, with the best will, can hardly be expected to keep very careful records of amounts to be deducted from him in advance, and at final adjustment. The rise in rates of wages is also the building owner's risk under a Ministry of Health contract. These are on a basis of rates ruling at the time at which the contractor submitted his tender.

Itemised, a certificate implies adjustments in respect of: (1) Variations normal to all contracts; (2) value of work executed; (3) value of materials on site; (4) railway rates on D.B.M.S. goods; (5) rise in the rates of wages; (6) differences in cost of materials over basis prices; (7) daywork; and (8) deduction of cost of materials supplied by D.B.M.S.

A Successful Method

One method of valuing for certificate and adjusting accounts found to be successful, is to deal first with those variations inseparable from all contracts and housing contracts in particular. Housing contracts are prolific in variations. The architect or the housing commissioner, or both, in revising the original tender, and cutting down costs, may have struck out many items which have had to be reinserted during the execution of the work. The account may conveniently be drafted on double bill paper, one column being headed "additions" and the other "omissions." It will generally be found necessary to keep a separate bill of additions and omissions for each block, with a bill for general items which apply to the scheme as a whole, but which do not apply to any particular block.

Next to be dealt with is the value of the work executed for which is used an ordinary foolscap dissection sheet, having a number of cash columns, with the usual wide column on the left. In the wide column are put the trades in the order in which they appear in the bills, with an added line at the bottom for variations. Each block of houses is given a column, the top of the column being headed with the number of the block. As each block to be valued is reached the surveyor, knowing at what stage it is in, adds the total value of the items executed in that trade, at the prices in the bill, in the column of the block being dealt with. These are filled in in pencil, and inked in as each trade is completed.

In the case of subsequent valuations only the amounts opposite a trade, in a block, in which more work has been executed, need be altered. As each block is completed all the amounts opposite each trade will become inked in, and the total of the column will be the same as the total amount of the bill for that block. The total of each column gives the value of the block at the rates at which it was tendered for, and to or from these totals are added, or deducted, as the case may be, the differences between the additions and omissions from the bills of variations, giving the value of each block. The totals of each block added across give the value of the whole of the houses, at the rates tendered for, including variations. This total added to the general variations, value of materials on site, day work, railway rates on D.B.M.S. goods, etc., gives the grand total value.

The value of materials on site can only be obtained approximately, as the quantities of such materials are constant fluctuating, material being received, an used, during the whole of a working da For material on site the contractor shou render an account, with the quantities ar rates extended and totalled. The quan tities are checked by the clerk of work and then the rates and extension a checked. The cost of material other tha D.B.M.S. should be allowed at curre rates, and the D.B.M.S. materials schedule rates. Railway rates D.B.M.S. goods can be checked from t railway vouchers, which will also be check upon D.B.M.S. supplies, both f deductions from the contract and f settlement with the D.B.M.S.

Rises in rates of wages are the mo easily dealt with. All that is necessa is for the clerk of works to keep a reco of the hours worked each week by ea man, usually obtained from the contra tor's time book and checked by observ tion, the total amount of increase in wag up to date being added at each valuatio

During the progress of the work a co tractor may be asked to give estimates f additional work or for alternati methods. If his estimate is based on cu rent rates, a rise in wages having tak place over his basis wages rate, it w mean separating the time men on t work from the general work of the co tract. An arrangement with the contra tor that these estimates shall be based the same rates as his contract rates w avoid this complication, he being paid t extra labour rates on the time worked these subsequent estimates as if they w included in the original contract.

The adjustment necessitated by rises the cost of materials may be lengthy a complicated. If there is no claim that t quantities are incorrect, the rise in c can be based on the quantities with agreed allowance for waste. In the c of a rise in materials an allowance waste is due to the contractor. When contractor priced his tender, there w have been included an allowance waste in his rates, therefore any rise the cost of materials has had to be paid on the waste as well as upon the quantity in the bill.

Checking Goods

Invoices are frequently accepted as su cient evidence of quantity to avoid the of computing, but the larger items at rate should be checked. Goods do always arrive as invoiced, sometimes at all. Railway vouchers and the m chants' statements are some che although not proof, as was found on occasion when comparing the total nu ber of bricks invoiced with the num required for the work.

Accurately computing the amount timber contained in joinery is a leng process. Each piece, as cut up in mill, has to be taken separately and mu plied by the number of pieces to get value of the whole. To a door it me styles, rails, panels, etc.; to windows, side linings, outside linings, pulley sty etc., and to the sashes, styles, rails, To avoid this lengthy process a percen of increase is sometimes agreed, it b considered that any error in the percen would not amount to as much as the of accurately taking each piece.

Italian Villas. 2.—Selected Examples from Scheult

Scheult's fine collection of examples of Italian Villas embraces a wide variety of façades capable of adaptation to present-day requirements. The specimens shown above are full of suggestion, each in its own particular way offering something of interest to the architect. All are distinguished by a perfect sense of proportion and a nice balance of parts.

JAN 13

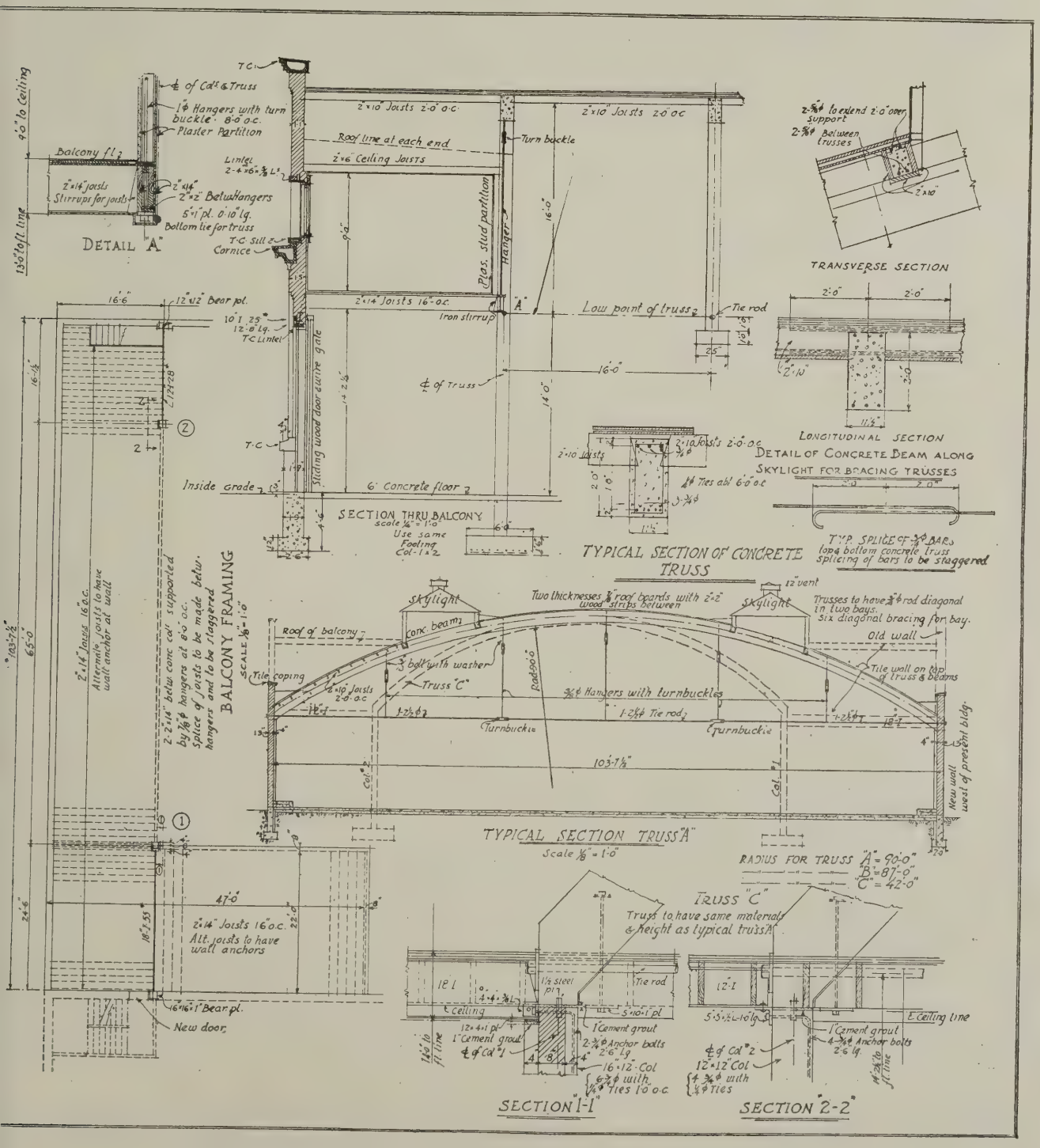
onstruction. 13.—A Wide-span Garage Roof.

constructing a garage building particular attention has to be paid to the roof in order to secure a floor space as as possible from columns to provide he efficient handling of the cars. It cessary that unobstructed floor areas rovided for widths of at least 50 feet two rows of automobiles are to be ed, and wider buildings are often in ples of 50 feet or more.

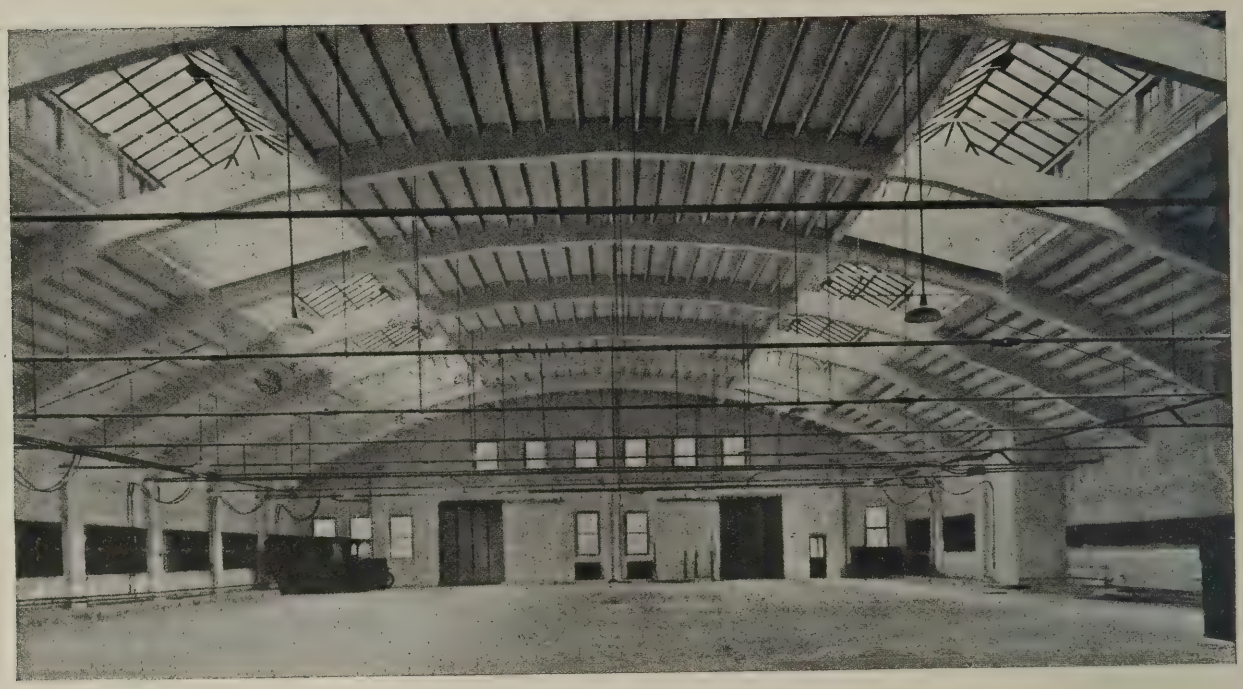
e roof truss illustrated was conted in Chicago, over a one-storey ing used as a garage for delivery autoes and a distributing station as well. e building is 103 feet 7½ inches wide, de measurement, and 161 feet 4 inches long, the automobiles being parked along the side walls, while the central portion of the floor is used for the storage and assorting of the packages of merchandise.

Each of the roof trusses, the span of which is over 100 feet, consists of an upper chord constructed as a reinforced arch 11½ inches wide and 24 inches deep, with a rise of 17 feet. These arches, with the exception of that at the front or balcony end, are laid out to a 90-foot radius. Each arch is reinforced with six ¾-inch rods, three being placed at the top of the section and three at the bottom. Stirrups are also used spaced approximately 3 feet apart. The concrete is mixed in the proportions of one part cement, one part sand, and two parts broken stone. A horizontal 2½-inch round steel tie rod connects the ends of each arch, these in reality forming the lower chord of the truss. The tie rods are 14 feet above the finished garage floor, which allows ample clearance for the motor trucks. Five vertical ⅜-inch rods or hangers connect each concrete arch and 2½-inch tie rod, thus preventing sagging in the latter member. These hangers are spaced 17 feet on centres.

The arch, which is not built to a truly circular form, consists of short chords, each about 10 feet long. This design effected a saving in the form work and



WIDE-SPAN TRUSS FOR A GARAGE ROOF: DETAILS OF CONSTRUCTION.



INTERIOR OF A GARAGE, SHOWING WIDE-SPAN ROOF TRUSS.

does not detract in any way from the appearance of the arch, as can be judged from the photograph of the interior. The method of supporting the forms for the concrete arches was to construct a false-work consisting of towers placed 10 feet apart, built 4 feet square of 4-inch by 4-inch posts well braced.

These were constructed under and on line with such arch.

The roof framing consists of 2-inch by 10-inch joists spaced 24 inches on centres and covered with two thicknesses of matched and dressed board with 2-inch by 2-inch wood strips and paper between. This air space between the two thicknesses of roof boarding is essential, since it provides insulation, preventing the transmission of excessive heat through the roof, and also prevents condensation of moisture on the underside of the roof.

Notches were cut in the upper part of the forms for the arches. In these were placed the ends of the roof joists, which were embedded in the concrete. The joists and roof sheathing were placed in position before the concrete was deposited in the forms, thus serving as a runway for the wheel-barrows.

The details of the construction are well shown on the preceding page.

Four longitudinal concrete girders are built between the concrete arches, extending from end to end of the building. On these the vertical wood curbs that support the skylights were constructed. These two skylights extend lengthwise of the building except over the end bays. An enclosed balcony extends across the front of the building, in which are located the lockers, toilet and rest rooms provided for the chauffeurs. Artificial light is provided by four rows of direct lighting fixtures with porcelain enamel reflectors. If desired, the roof could easily be made more fire-resisting by covering the ceiling with metal lath and plaster or a heavy plaster board, and covering the steel tie rods with an asbestos pipe covering material.

A feature of the garage is the natural lighting of the floor surface, the intensity of the light being uniform over the entire floor area. This is the result of making the skylights of such shape and area that sufficient light is admitted with the absence of shadows. The building was designed by I. S. Stern, architect, and the concrete arches constructed by L. J. Mensch, Mem. Am. Soc. C.E., engineer.

For the foregoing interesting description and illustrations we are indebted to the "American Architect."

Publications Received

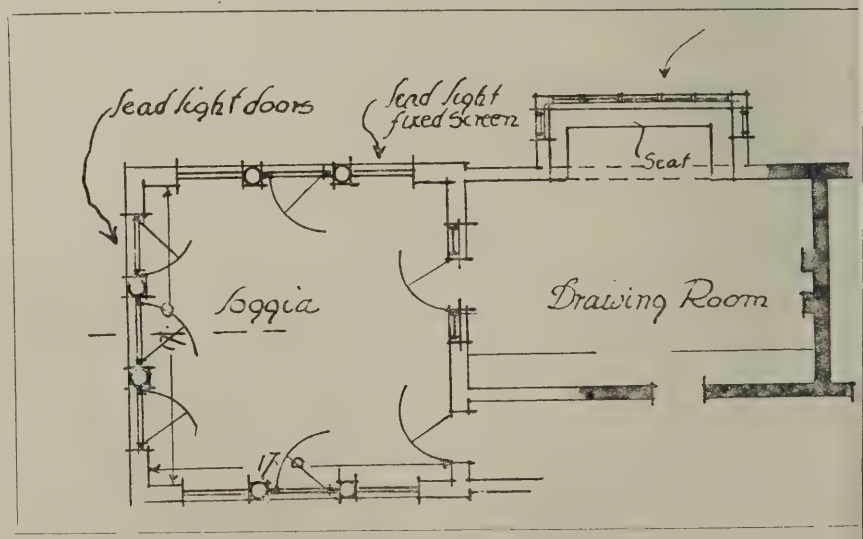
Hispanic Notes and Monograms. Peninsula Series II. Decorated Wooden Ceilings in Spain. By Arthur Byne and Mildred Stapley. G. P. Putnam's Sons, 24, Bedford Street, Strand, W.C.

A History of Everyday Things in England, 1066-1799. Written and illustrated by Marjorie and C. H. B. Quennell. Published by B. T. Batsford, Ltd., London.

Reinforced Concrete Design. Volume II. Practice. By Oscar Faber, O.B.E., D.Sc., A.M.Inst.C.E., A.C.G.I. Price 18s. Edward Arnold, 41 and 43, Maddox Street, London, W.

Additions to Park Ho Marden, Kent

This house was originally built twelve years ago for the Right. Hon. Magheramorne, and it has undergon siderable changes since that time. Th sent owner has added the loggia, as by the illustrations. The drawing-roo been panelled and enamelled white, new brick fireplace has been built dining-room. The reception-rooms all small, so that three new large ba dows with lead lights have been ad the drawing-room, library, and d room, which have greatly improve size and appearance of these rooms. siderable additions have been made servants' quarters, and electric ligh tral heating, and a water s apparatus have been installed. Th work has been designed and carrie this year by Mr. Geoffrey T. M A.R.I.B.A. The general contractor Messrs. G. E. Wallis and Sons, of stone.



PLAN OF ADDITIONS TO PARK HOUSE, MARDEN, KENT.

Geoffrey I. Mullins, A.R.I.B.A., Architect

New work recently completed at Park House, Marden, Kent, includes the interesting loggia shown above. The combination of an arcade of classical type with a steep gable is somewhat unusual, but Mr. Mullins has evolved a perfectly satisfactory treatment. Some general particulars of the recent alterations, together with a plan, are given on the opposite page.

Unification, Registration, and Housing*

By SIR CHARLES T. RUTHEN, O.B.E., F.R.I.B.A.

HERE are two great fundamental questions before the architectural profession to-day, the first, which affect the architect and his work, I ke bold to say, for a generation at least, one affecting the safety of the British stitution, the physical, social, and intrial well-being of the peoples of the pire. The second question is one which certain to affect architecture in the nest sense for many generations. It is ost unnecessary for me to state what e questions are, but in order to make ters clear I had better set them out, :—1. The great national problem of sing, and associated with this question difficulties in connection with all other ns of building work. 2. The question ne Unification and Statutory Registra- of the profession.

onservatism or exclusiveness has clung nore tenaciously to the architectural ession than to other professions, with result that whilst artisans and others ll great trades have been combining he purpose of improving the conditions standard of work, and protecting the ral interests of the individual; whilst the higher skilled mental worker, commonly called the master or employer, has been associating with his fellow for the purpose of mutual improvement and protection; and whilst the great professions generally have followed suit for the purpose of the protection of the skilled and the elimination of the incapable and unskilled, architects and those of certain allied professions have remained aloof and exclusive.

For a great many years there has been upon the part of certain leaders of the profession a very definite objection to combination, in the trade union sense, of the members of this honourable calling. Objection from the same source has also been made to any form of legal registration. Architecture being considered an art, pure and simple, registration is thought impossible. It has, however, become accepted that the safety of the community, in the broad sense, depends not upon the artistic side of the architect's work but upon the scientific side, and however important may be the purely artistic side the scientific side is not, and never has been, a natural gift in the same sense as art is such. Whether the architect as an artist can be separated, as it were, from the architect as a scientist or constructionalist; whether it is possible to register the latter and leave unregistered and untrammelled the former; whether the architect as an artist should be allowed to practice upon the feelings and susceptibilities of the innocent public, and whether, if he be so allowed unfettered by any law or unrestricted by any regulations, such efforts could reasonably be held, in certain artistic attempts, to injure the health of the public—these are the vital questions.

There can be no doubt, I would venture to suggest, that the architect as a scientist or constructionalist (and it will, I think, be generally agreed that in this capacity he is one of the most important, if not the most important, worker in our great social system) should not be permitted to practice upon the health of the community and toy with the lives of present and future generations, without a proper and sufficient education and qualification and without a proper registration, which would make the unqualified answerable to the laws of the community.

The entire question of the unification of the profession and with it all the important questions of education, examination, and registration, came into special prominence by the admitted practice of the unqualified and all the evils resulting therefrom. The knowledge is forced upon the rank and file of the profession, that whereas nearly all trades and businesses are unified, and most professions are both unified and registered, the profession of architecture and certain allied professions are still unregistered, ununified, and lacking in that essential control and ungoverned by that centralised opinion so necessary in these difficult and unprecedented days.

I hold a very strong opinion that alone among all great professions the members of the architectural profession have kept themselves aloof from that part of the public life of the country which it was their duty to undertake, and the country is today the worse for this neglect upon the part of an important body of its citizens.

No section of the community of this great Empire is more fitted by training and by experience and more capable of undertaking its full share in public work; but on our local authorities and in Imperial Parliament no learned section of the community is so inadequately represented. The temperament of the architect and the native nervousness of the members of the profession have undoubtedly accounted, to a large extent, for this apparent neglect of that civic duty which is, after all, reasonably expected from all sections of the community in this democratic age. The difficulties experienced by architects as a body in obtaining a proper recognition of the important part played by the members in the moral and physical welfare of the people, and the great ignorance of the public generally upon the importance of the architect and his work, are due entirely to an uneducated public opinion, and architects themselves are entirely responsible for this.

If the housing programme absolutely necessary for the safety of the British Empire is to be carried into effect with the minimum of delay, the entire labour available in the building industry, to the absolute exclusion of all other work, essential

*xtracts from the Presidential Address to the y of Architects.

SIR CHARLES T. RUTHEN, O.B.E., F.R.I.B.A.
PRESIDENT OF THE SOCIETY OF ARCHITECTS

and unessential work, must be engaged on house building; the output of that body of workmen must be accelerated, and a very heavy recruitment must take place into its ranks. This is a very serious state of affairs for the country, and, incidentally, for the architectural profession as a whole. If the arrears could be overtaken and the problem solved in a few years, the position would be serious indeed; but when it is considered that, perhaps, not less than twenty years will be required satisfactorily to solve this problem, a full appreciation of the position will be grasped.

As the outbreak of a great plague would demand the immediate attention and service of the members of the medical profession, not in a selfish sense but in the great national sense, so this vital housing problem demands the service of the architectural profession and all the members of the great building industry. Are the members of the architectural profession, apart altogether from their own particularly personal position, addressing themselves to this serious situation? If not, why? I wonder whether it would startle the members of the Society and those of our big brother the Royal Institute, to hear that possibly not more than 15 per cent. of the entire labour in the building industry to-day is engaged on housing work? There is other building work absolutely necessary for the industrial and commercial prosperity of the Empire, I agree; but which work shall cease, house building or other building?

It is the serious business of the architectural profession as a whole to address itself to this great and vital problem—to organise in some manner the three great sections of this important national industry—the worker, the employer, and the architect. It cannot be said that the Government have made the use of the members of the architectural profession that was possible. That may be the fault of the Government, or may be the fault of the profession; but wherever the fault lies, a remedy for the present position must be found, and found quickly.

The question of unification and registration is the other great issue before the profession. Unification must come first, a complete and harmonious unification of all branches of the profession, of all professional bodies. This unification is showing healthy signs of consummation. In which way complete unification will eventually be brought about it would be difficult and perhaps somewhat dangerous for me to prophesy, but it would appear that there are so many duties and phases of the various branches of the profession, so many particular interests to uphold and safeguard, that the individuality of each great body may be preserved, and a perfectly satisfactory solution found in some form of federation.

The question of registration is one which I think will find almost unanimity of support, and I feel that registration will rapidly follow a proper scheme of unification. The question of the education of the architect is one now engaging the close attention of the Society, and by the establishment of the first Beaux Arts Atelier in this country the Society took a great step forward in the direction of the proper education of the architect of the future. The architect of the coming generation will commence with a greater and more complete knowledge of design and construction, and will be a greater credit to the profession and of greater value to the community.

Birmingham Architectural Association

During the past session the energy of the Birmingham Architectural Association has been largely directed to setting its house in order, after the period of disorganisation due to the war, but in addition to this task many other things have been accomplished. The very great need for unification and consolidation induced the Association to issue a special appeal to all architects, within its province, who were not members, to apply for election. As a result, fifty applications were received and forty new members and ten associates were duly elected. Thus the ranks of the Association have been materially augmented, and its sphere of influence and usefulness strengthened. It also testifies how emphatically in favour of registration the Midland architects are.

As is customary, the first meeting of the session of the Birmingham Architectural Association has been inaugurated by a dinner at the Midland Hotel, Birmingham, the President, Mr. H. T. Buckland, F.R.I.B.A., presiding over about forty-five members. Dinner was followed by the annual presidential address and a smoking concert.

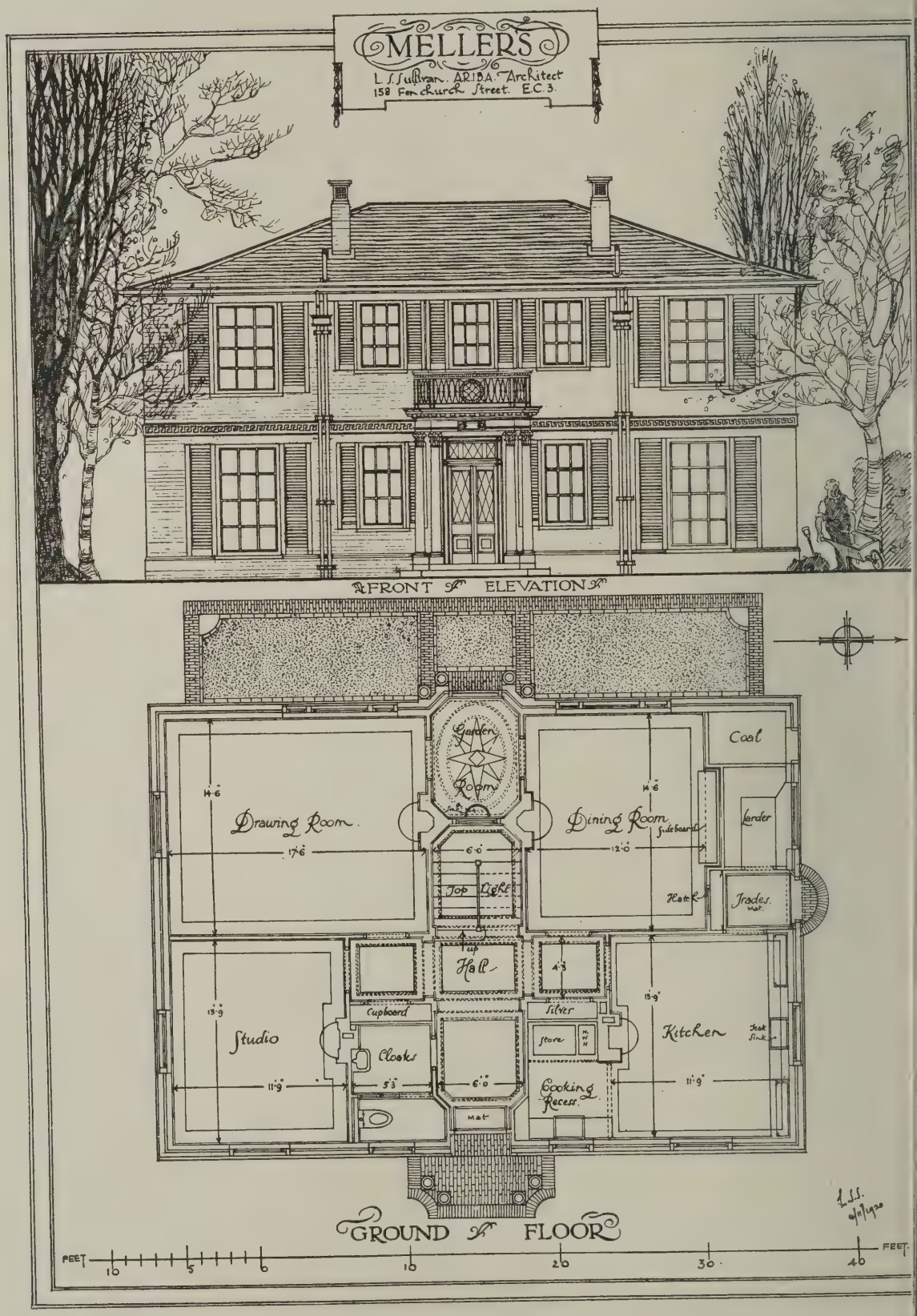
Mr. Buckland, in his address, said that he thought it the one occasion during the session when an opportunity was afforded him to review the work of the past, and to draw attention to some of the matters which would be likely to engage the Council and members during the coming session. It was a source of gratification, he said, to know that the financial affairs of the Association were in a satisfa condition, and that the present me ship of 214 was greater than that o other allied society, with the excepti Manchester. The School of Archit in Birmingham now had twenty-two dents, a far larger number than before, and he thought that they rest assured that under the l efficient directorship of Mr. Bidlak standard of architectural design i Midlands would be maintained.

One of the matters to which the cil's activities would be directed d this session was the revision of the laws, which were in many respects i sistent. He said that Birminghan been honoured by the R.I.B.A. "in they have elected me, as your pres to serve upon the new 'Unification mittee' and also the 'Contracts mittee.' So far no meetings of the f have been called, but with the com the new session its activities will pro commence. Upon the latter com has fallen the labour, during the past of revising the Institute Form of tract. The old form was one which endorsed and agreed to by the r builders, but early in this year the tute was notified that they were no l prepared to abide by it, and since t document has been issued by the Na Federation of Building Trades Emp of Great Britain and Ireland, wh described as the National Building for England and Wales, and em regulations for entering into and ing out contracts for building works. document also contains General tions of Contract and Forms of Cont

MR. HERBERT T. BUCKLAND, F.R.I.B.A.
PRESIDENT OF BIRMINGHAM ARCHITECTURAL ASSOCIATION.

Modern Domestic Architecture.

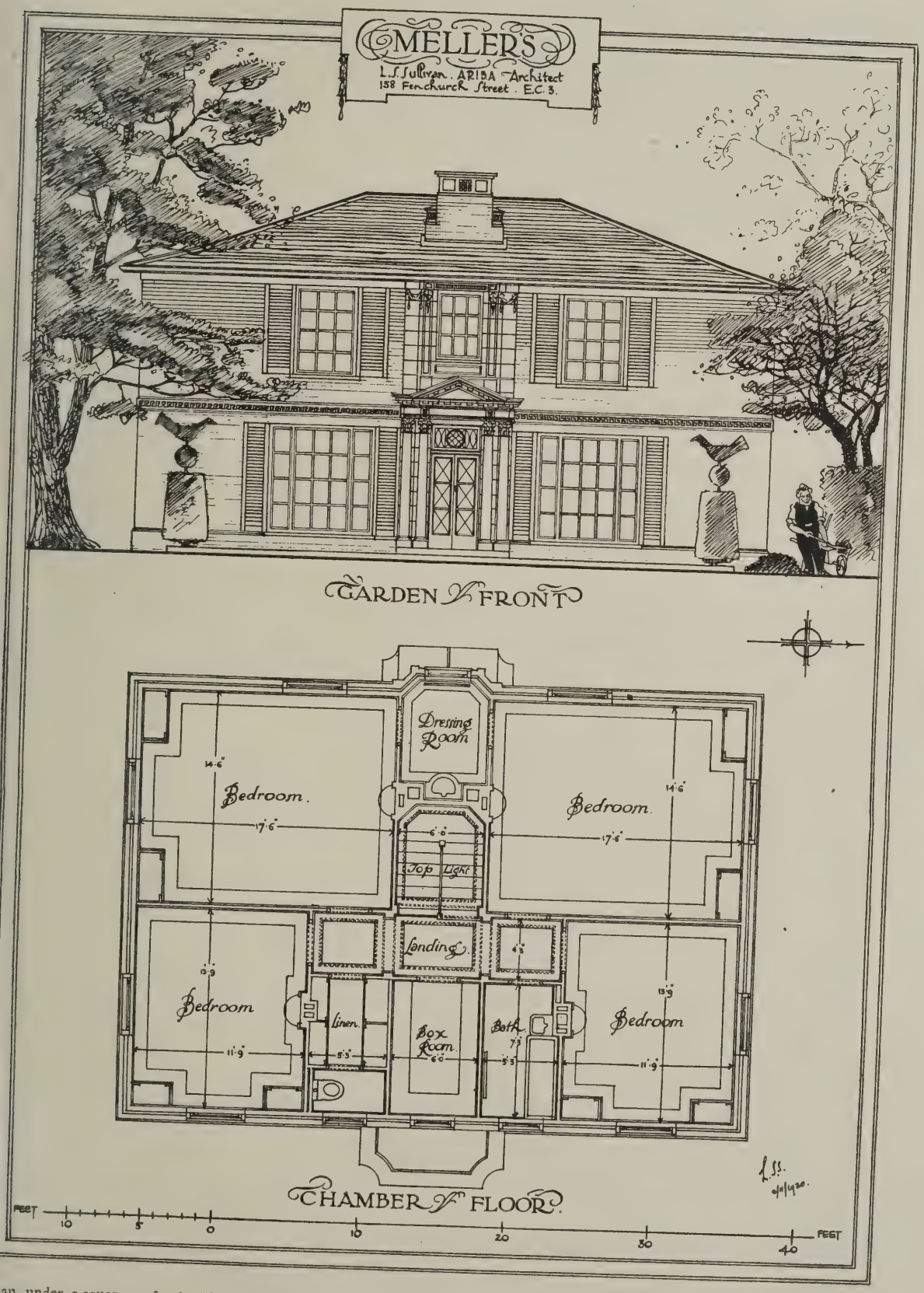
L. Sylvester



The above drawings reveal an interesting effort to give modern expre
by the mistress and a housekeeper, and stairs and passages are therefo
will be no kitchen range—a boiler being provided behind the kitche

ouse to be erected near Wimbledon

I.B.A., Architect



an, under a square roof and without excrescences. The house is to be run The whole accommodation is on two floors for the same reason. There nands, by gas hot-water circulation. All the upstairs rooms will be

JAN - 6 1973

Architects' Paris Conference

An interesting manifestation of Anglo-rench friendship took place on Thursday ast, when a deputation of British archi-ects met in Paris members of the cademie des Beaux Arts and the chief rchitectural societies of France in a con-erence on the problems of architectural ducation. The British deputation con-sted of Messrs. John W. Simpson, presi-ent R.I.B.A., Membre Correspondent de Institut de France; Paul Waterhouse, I.A., F.S.A., F.R.I.B.A., chairman; and V. G. Newton, M.C., M.A., A.R.I.B.A., on. secretary, Board of Architectural ducation; G. Gilbert Scott, A.R.A., R.I.B.A., president of the Architectural ssociation; Alexander N. Paterson, M.A., R.S.A., F.R.I.B.A., president, Insti-te of Scottish Architects; C. H. Reilly, .A., F.R.I.B.A., director of the School Architecture; and Patrick Abercrombie. rofessor of Civic Design at the Univer-y of Liverpool; H. M. Robertson, A.D.G., Principal of Architectural As-ciation School of Architecture; and thur Davis, F.R.I.B.A., founder of the ndon Ateliers.

Monsieur Paul Leon, Under-Secretary of te for the Fine Arts, and director of National School, received the British egates on behalf of the French Govern-nt, and presided at the opening session the conference, supported by M. H. not, of the Institute of France, presi-t of the Academie des Beaux Arts; M. uvet, president of the Societe des hitectes diplomé par le Gouverne-nt; M. Jules Godefroy, member of the seil Superieur de l'Enseignement of Ecole des Beaux Arts, etc.

ieut.-Colonel H. P. Cart de Lafon-e, O.B.E., A.R.I.B.A., the hon. etary of the British Conference Com-ee, in an interview, explained that this ting is part of a scheme for promoting ial relations between architects in the countries, and has been organised by R.I.B.A. and the Societe des Archi-s Diplomés of France. The idea of nging exchange exhibitions of draw-and visits had occurred to him some years ago, when, as a student in one e "ateliers" of the Ecole des Beaux he was struck by the almost com-lack of contact between British and ch architects. The idea of establish-loser relations between the societies of wo countries was cordially welcomed rchitects on both sides of the Chan-Early in 1913 the Architectural Asso-n of London organised an exhibition lected drawings by students of the des Beaux Arts, kindly lent by the h Government, and on that occasion had the pleasure of welcoming a er of distinguished French architects ndon. This event was followed, in by a considerably more important taking—a representative exhibition itish architecture comprising five ns: historical, the colleges of Oxford Cambridge, the City churches, and n gardens, etc., the architecture of ineteenth century, modern work, colour and pencil sketches, and ts' work.

exhibition aroused a considerable t of interest not only amongst cts, but in the general public, and appeared in about two hundred nd provincial newspapers. A num-British architects visited Paris on ccasion and were most hospitably d by our French confreres, and it cided that there should be a further meeting in London at some date in the near future.

Meetings of this kind, he thought, were particularly valuable in cementing the Entente Cordiale. As architects they had a common language in their art, and these friendly meetings and discussions were of immense value in helping both countries to solve the many difficulties which beset the path of reconstruction. They realised that most of these difficulties presented new problems, and they were meeting to consider the question of the education of the young architect in relation to these modern factors of legislation, design and materials, as they now existed in both countries. Many of us believe, said Col. Lafontaine, that it is only by means of this direct and frequent exchange of views that the friendship between our two great nations can be maintained and developed. In this matter we feel that as artists we should take the lead and show, in a practical way, that the friendship which united us in the hard days of war still unites us in our endeavour to solve the many difficulties of the present day.

Enquiries Answered

The Editors cordially invite enquiries from readers who require information on architectural, constructional, or legal matters.

Answers to enquiries are in all cases the work of experts; and while every care is taken to make the replies thoroughly reliable, the Editors cannot hold themselves responsible for any inaccuracies that may inadvertently occur.

Correspondents whose difficulties involve possible legal proceedings are strongly urged to consult their solicitors before taking action on any advice that may be given.

Examination questions cannot be answered.

It must be understood that, as a rule, both question and answer will be published in these columns. The name and address of the querist must always be given, not necessarily for publication.

Correspondents are requested to be as brief as possible, and to write on one side of the paper only.

Dumpy Level. Sanatorinm Sewerage System.

J. T. W. writes: "(1) Are there any small books published which would enable me to learn the use of the dumpy level? (2) Could you explain a system of septic sewerage for a sanatorium for about two hundred persons?"

—(1) The most suitable book for a beginner in land surveying and levelling, for self-teaching, is "Practical Surveying and Elementary Geodesy" (Macmillan 5s.). It contains illustrations and full descriptions of the method of using the dumpy level, including entering the readings in the level book and plotting sections. This portion of the work occupies five chapters.

(2) The sewage from the sanatorium should be discharged into a covered brick or concrete water-tight tank about 5 ft. deep and having a capacity, below inlet level, of from one to one-and-a-half times the total daily volume of sewage calculated at the rate of 40 gallons per head. The drain should be disconnected from the tank by an ordinary intercepting trap with fresh air inlet on the drain side. The tank should be ventilated by a cast-iron shaft 6 ft. high. The inlet and outlet of the tank should be submerged to a depth of 1 ft. 9 in. and a baffle board should be fixed across the tank to prevent a direct flow from one to the other. The floor should fall to one corner, where a sump 12 in. square and 12 in. deep should be formed. A chain pump could be fixed over the sump for the periodical removal of the sludge, which should be wheeled away and buried in the ground or used for fertilising purposes. The effluent from the tank should then be discharged by means of suitable apparatus on to the top of a percolating filter, say 5 ft. deep, composed of clean broken gasworks clinker or other hard substance not liable to crumble up. About one cubic yard of material should be provided for every seventy-five gallons of the daily dry weather flow. The filter may be rectangular, and galvanised iron tipping troughs could be arranged to distribute the sewage on its surface. The botton 6 in. of the filter should consist of large clinker with 3-in. agricultural pipes embedded to collect and discharge the effluent, which should be fit to discharge into any small stream.

HENRY ADAMS.

Valuation of an Architect's Practice.

SUBSCRIBER writes: "Would you kindly inform me what is the customary method of valuation of the goodwill of an architect's practice to-day, with a view to the purchase of a share? The practice is a London one."

—Speaking generally it is most difficult to give any precise data for valuing an architect's practice owing to the many different types. An architect's practice is a very personal affair and in consequence its market value is small in comparison with a business where personality does not enter so largely into the matter. The usual method is to value it on the basis of two years' purchase of the average net profits over a number of years, say six or seven. This would, of course, apply to the purchase of a share in proportion to the magnitude of the interest to be obtained.

W. S. B.

Banned War Contract.

C. W. writes: "Can you tell me the rates of wages paid to slaters and labourers (North-Western Manchester area) in April, 1916, and the subsequent advances granted, Government awards and others, and the date at which they came into force? Am I right in assuming that a contractor may charge his client with advances, made between acceptance of a contract and commencement of the work, and can these advances be enforced even though no clause was inserted in the estimate on acceptance of the contract? The contract I have in mind was placed in 1916, and I am expected to carry out the work—asbestos cement roofing—at the figure it was originally accepted at four and a half years ago. The building was stopped by the Government during the war, and is just ready for the roof. Do you know if any similar case has been fought out in a court of law?"

—Our correspondent should get into touch with Mr. Sam Wigham, Secretary to the Master Builders' Federation, North-Western Area, National Buildings, St. Mary's Parsonage, Manchester, who would, no doubt, give him all the information desired with reference to the advances in wages, from the time stated to date. With regard to whether he could charge his client with such advances, it is difficult to form an opinion without examining the contract he entered into for the work. With reference to the stoppage of the work by the Government, we think that such a procedure is generally recognised as being a cancellation of the order, but a solicitor should be consulted on this point.

Law Reports

Builders' Small Claims and High Court Costs

Cave v. Grimes.

Official Referee's Court.

Before Sir F. Newbolt, K.C.

Sir Francis Newbolt, one of the High Court Official Referees, had occasion to comment upon the practice of bringing actions for small amounts before Official Referees instead of taking them to the County Court, and so swelling up the costs to an amount out of all proportion to the sum claimed. A builder named Cave, carrying on business in Hatton Garden, sought to recover the balance of an account for repairs and decorations carried out for a Mr. Grimes at his house at Purley, and Mr. Costello, in opening the case, mentioned that the total amount of the account rendered was £189 16s., of which the defendant had paid £120 admitted, and the plaintiff was suing for the balance.

Sir Francis: It seems rather a small matter for a High Court to deal with. Why could not a County Court Judge deal with the case?

Mr. Costello said he did not suggest that the County Court could not have dealt with it; but it was in the discretion of the Master, who had directed that it should go to a referee.

Sir Francis: This is an expensive tribunal, but when amounts are large it is reasonable that they should be brought here. It may cost over £100 a day to try a case here.

Mr. Costello said that the trial commenced with a claim for £189.

Sir Francis said that recent cases had come to him from the Master in which the amounts were small, and the parties had agreed to have them tried by County Court Judges. The trouble was that a defendant might say that a plaintiff had charged too much, and the balance recovered might be only £5 or £10, yet that might carry costs.

Mr. Costello said that the defence set up was that there was to be an agreed price not exceeding £75 covering work originally ordered. It was, however, admitted that extra work was ordered, but defendant said it was not worth more than £45. Then they said that other charges were excessive.

The case was then proceeded with, and after a hearing which occupied two days the Official Referee reserved judgment on a point of law in regard to contract.

Action against Builder

Dombrain and Another v. Jordon.

Chancery Division.

Before Mr. Justice Astbury.

This was an action brought by Mrs. Edith Anee Dombrain, of Chilchester Lodge, Wickham Road, Beckenham, and Mr. Walter F. L. Jones, of Burrell Cottage, Wickham Road, Beckenham, against Mr. Philip Charles Jordon, of 71, Wickham Road, Beckenham, in which plaintiffs claimed an injunction to restrain defendant from carrying on the business of a builder and joiner in Wickham Road in such a manner as to be a nuisance. Defendant denied that he had conducted his business in such a manner as to be a nuisance to the plaintiffs. Mr. Luxmore, K.C., and Mr. Harman appeared for plaintiffs, and Mr. Hildyard, K.C., for the defendant.

After explaining that plaintiffs' property adjoined defendant's workshop, his Lordship dealt in detail with the evidence called on behalf of the plaintiffs to prove that a nuisance was created by the shrieking of a circular saw, the operation of a gas engine, and the violent hammering on metal. He held that it was impossible to rely literally on the notes taken by the plaintiffs, and came to the conclusion that the alleged shrieking of the saw was a gross exaggeration. In his judgment, defendant's business as a rule had been carried on in such a way as not to create a nuisance, but there had unquestionably been a great deal of unnecessary noise made in defendant's yard. He had considerable doubt as to whether he ought not to dismiss the action, but he thought that the fair order would be that if the defendant would undertake not to repair motor cars in the yard when the work entailed a considerable amount of hammering, not to hammer metal goods with metal hammers so as to cause a nuisance in his yard, and to keep the doors and windows on the west side of his shed closed when work was in operation, he would make no order in the action, and direct each side to pay their own costs.

Defendant gave the desired undertakings.

Turning Houses into Flats

Paddington Estate Trustees and Another v. Diamant.

King's Bench Division.

Before Mr. Justice Rigby Swift.

This was an action by the Paddington Estate Trustees and the Ecclesiastical Commissioners against Dr. Diamant for forfeiture of premises consequent upon breaches of covenant.

Mr. Douglas Hogg, K.C., and Mr. G. Lawrence appeared for the plaintiffs, and Mr. Rayner Goddard for the defendant. Plaintiffs' case was that the defendant was lessee of certain premises at 5, Southwick Crescent, London, and that there was a covenant preventing his making alterations, etc. In contravention they say the defendant had converted the building into flats.

When the case was called Mr. Douglas Hogg said the parties had arrived at a settlement of the action. The action was for forfeiture of a lease on the ground that the covenants in the lease had been broken in effect by turning the house into flats. The terms which had been arranged were these: Defendant admitted the breach of covenant, and there would be judgment for possession, but there would be relief against the forfeiture provided the defendant reinstated the premises up to a certain point by Christmas of this year, and provided he reinstated the remainder of the premises by April 30, 1922, the extended date being given because it so happened that the defendant had leased the top part of the premises to another person, and plaintiffs were anxious to be reasonable in these times, and not to insist on their strict rights, as it might cause hardships to third parties. A further term of relief was that the defendant was to pay the solicitor and client the costs of the plaintiffs. Subject to his lordship's sanction, that would dispose of the action.

Mr. Rayner Goddard agreed, and said on the whole the plaintiffs had acted fairly in the matter.

Action settled accordingly.

The London Society's Development Plan

(*Concluded from No.* 1,349, *page* 518)

Proposals for parks, open spaces, can and streets will also be shown, while markets and docks will, it is hoped, be dealt with.

The ten existing main roads shown the Oxford, Bath, Basingstoke, Po mouth, Brighton, Dover, Colchester, Norwich roads, the Great North Road, the one leading to Coventry.

The new roads proposed are the east and western avenues, being an exten of the Marylebone and Euston Roads, and west, providing a way across Lon to give relief to the present congested tral routes. This is a proposal stro supported by the London County Cou and for which a scheme is now being pared in detail by the Road Board on lines recommended by the Traffic Com sion, 1905—these avenues and the Br ford by-pass will probably be the roads to be constructed.

The western avenue, commencing at junction of Silchester Road with Lati Road, passes under the West Lor Railway to Wood Lane, and thro open ground south of Wormwood Sc to the high ground north of Uxbridge, diverting the through traffic from winding Harrow Road and the Uxbr Road, which is so congested at Sheph Bush, Acton, Ealing, and Uxbridge.

This avenue is continued eastw through the Marylebone, Euston, Per ville, and City Roads, joining up with new eastern avenue from the City R passing Hackney Marsh, and nort Ilford and Romford, joining the Colch road at Gallows corner, thus relie the Colchester road, which is much gested at Bow Bridge, Stratford Street, Ilford Bridge, and Romford.

The new Cambridge road is the cure for the inadequate service ren by the two old roads, the Cambridge Enfield roads, between which it runs the L.C.C. estate at White Hart Lane undeveloped ground to the west of tham Cross and Cheshunt, joining present main road at Turnford. Po tion on this line is rapidly increasing, unless the land for this new road ca ear-marked immediately, new buil will soon block the route.

The new Chertsey road would leav Chiswick High Road at Young's Co cross the Thames by a new bridge to the Lower Richmond Lane, with an bridge to relieve the present Richm Bridge over the Thames to St. Marg through Twickenham, Hanworth, Shepperton Green to Chertsey Br This road would open up a large are development, and shorten the rou Woking, Bisley, and Aldershot.

While London is fairly well sup with radiating roads, though of altog inadequate widths at certain points, are no cross or circulating roads co ing them. A northern and southern cular road is therefore suggested, the thern road commencing at Chiswick Road a little east of Kew Bridge, follo Gunnersbury Lane, and over E Common to Park Royal Station, follo more or less the Brent Valley, and crossing Harrow and Edgware Roads, ing the Regent's Park Road near M Brook—then by existing roads to eastern end of Bowes Road over the

War Memorials. 7.—An Oak Panel

Halliday, Paterson, and Agate, Architects

This memorial panel, commemorating the war service of members of the firm of Messrs. G. Robinson & Co., of Princess Street, Manchester, has been erected in the vestibule of the firm's warehouse. Strictly architectural in character, it shows an appropriate treatment for a memorial of the corporate type.

ee in the direction of West Ham and the ocks, giving access to Ilford and the olchester road. This road, while facili-ating communication between all the arte-al roads that it crosses, gives access from est to east without passing through the rowded centre.

The southern circular road could pro-ably be provided at small expense. From lapham Common it follows a series of xisting roads connected up with short new tervals past Tulse Hill, Dulwich, and ordship Lane, along Brownhill and St. ildred's Roads, with a length of new road Well Hall, effecting an important junc-on with the road to Woolwich, giving a nnection between the west and south-est of London with Woolwich and the free rry across the Thames into Essex.

A further circular or zone road is sug-sted at a distance of from twelve to four-en miles from the centre: this road uld follow considerable stretches of isting roads, in some parts traversing easant country, and connected by com-ratively inexpensive sections of new road er open ground.

A new road is also urgently required to eve the existing Barking Road and to prove the access to the Southend road, connection with the Thames-side hous-scheme, leaving the Beckton Road r the West Ham boundary, crossing Midland Railway and joining the Til-y and Southend road a little beyond rking.

A new high level approach, shown on the n, is also required to the Victoria and ert Docks and the North Woolwich d, avoiding the level crossing over the at Eastern Railway at Tidal Basin.

By-pass Roads

n some cases it is proposed to relieve congested portions of certain main ds by a by-pass or relief road, as at ntford, where a road, 80 ft. wide, is pro-ed, commencing at the Chiswick High d, near Gunnersbury, passing north of ntford Station and joining the Bath beyond Hounslow. For this portion e road an Act of Parliament has been ined by the Middlesex County Council, the scheme is incomplete without an nsion beyond the Bath road to the ngstoke road.

n the Brighton road at Croydon a by-has been agreed upon, but the width ested (60 ft.) is altogether inadequate main road. The expense of the extra would be little more than the cost of and: the outlets at either end of this as at present proposed are highly in-enient.

relieve the congestion on the New Road, where the traffic proceeds Central London to either of the roads ver, Maidstone, or Tonbridge, a new would leave the Old Kent Road near y Road, crossing the Grand Surrey to Peckham Rye, and on by Catford Tonbridge Road.

v-pass to avoid the dangerous market n Kingston is required, together with e extended by-pass for Kingston and on. This would leave the Ports-Road at Kingston Vale, and follow-e line of the Beverley Brook pass gh New Malden and Tolworth, and the Portsmouth Road at Littleworth on.

y-pass for Sutton is also desirable, ea around the station being much ted, and with the increasing popula-nd building the possibility of relief will soon disappear. A short by-pass road to the south-west of Bromley would relieve a congested area, and enable that town to carry on its business undisturbed by through traffic. A relief road to the south of Eltham and continued to the north of Sidcup would greatly facilitate traffic along the Maidstone Road.

All these new roads and by-passes have been suggested by the Traffic Branch of the Board of Trade and are shown on the Development Plan on pages 520 and 521 of our last issue; many other connections to facilitate inter-communication between various main roads are wanted and suggested by the London Society.

There are many other improvements shown on the plan which, though of less importance, would greatly facilitate traffic and speed up the trade of London, for Lord Leverhulme stated in his evidence before the House of Lords that he found the cost of transport in London 30 per cent. higher than in any other town he knew, and this he put down to the congestion of the streets.

The making of these roads is urgent for another reason, that if they are not made soon they will probably never be made at all. Now they could be made to fit in with the various town-planning schemes already in preparation for encircling London which provide an opportunity for helping the construction and improvement of many of these roads which may never recur, for when sanctioned these town-planning schemes may block every possible outlet for any new road. Again, these new roads would provide the essential means of access to the various new housing schemes.

The plan also shows the suggestions for a great park system for Greater London, which the Society claims is neither fanciful nor extravagant, but at the present time eminently practical.

While the north-east and south-west areas of London are fairly well supplied with parks and open spaces, the south-east and north-west are very deficient. For the north-west area it is proposed that land should be reserved for a large public park of over 2,000 acres at Stanmore, to include the Aldenham reservoir and its beautiful surroundings. The park lies at the head of the Edgware Road and would have some formal avenues and approaches, as shown on the plan, and would also include the open spaces of Harrow Weald Common and Stanmore Common. Ready access by road and tram would be available and magnificent views obtained. This park would be linked up by a waterside reservation from Harrow Common to Bushey Park, following generally the line of the Crane. Another starts from the Brent reservoir, following the course of the Brent past Hendon and Neasden, and so on to the Thames at Brentford and Kew. The land on either side of these watercourses has in most cases considerable charm, while it is not very suitable for building purposes.

Hainault Forest, to the north-east, is a large area which also might very advantageously be reserved for the benefit of the increasing population growing up around it, but the south-east is still more in need of open spaces, and the acquisition of the beautiful Addington Park and Shirley Woods is suggested. The park is of large extent, lying between Croydon and Bromley. There is also a park of somewhat similar extent at Bexley which might be acquired, bordering on the River Cray to the south-east of Woolwich.

The waterside reservations and parkway on the east side would link up Epping Forest on the north-east and follow the River Roding through Chipping Ongar and Buckhurst Hill, Woodford, Wanstead, and Ilford, and into the Thames below Beckton. Another still further east runs from Romford, then through Rainham to the Thames.

Many other waterside reservations and parkways are shown clearly in the plan, and it is therefore not necessary to particularise them here, but it is the hope of the London Society that the various authorities who have control of these districts will study the suggestions made on this plan after much consideration, for though it is now too late to attempt a green parkway or belt right round London, as there should be, much might be done to save the existing open spaces to preserve the amenities of each district.

It is not suggested that this plan will be final or conclusive, but it will at least form a valuable basis of solid information and suggestion, for the first time completely brought together and graphically represented, something which can be worked upon, criticised, and improved. In conclusion we would say that the original work for this map was done on the 6-in. ordnance sheets, and the reproductions, which were prepared by Messrs. Stanford, Long Acre, are to half that scale, that is to say, 3 in. to a mile. The original plan is now permanently housed in the London Museum, Lancaster House.

Correspondence

Women House Builders

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—In your issue of October 27 you refer to this new firm of women builders and say that "the invasion of the builders' business will not be resented provided the competition is wholly fair." On behalf of the new firm I should like to express my appreciation of your friendly spirit, and to say that as far as we are concerned we hope to act perfectly fairly, and to observe the correct etiquette of the business, as well as its serious traditions.

I ought to state that we are not a firm of women builders only, we employ ex-soldiers also, and intend to be quite fair as between men and women workers, paying equal pay for equal work in every branch of the business. You suggest that we may be trying to "syncopate" the work of architect, builder, and client, but I do not think the suspicion is wel founded.

We do indeed propose to put on the market a stock cottage, a small village dwelling, based on one of the approved plans of the Ministry of Health, which we can build very cheaply of pisé de terre. We shall do this for landlords or workpeople, and do not think that we shall be "diluting" the architects' profession thereby. For other types of houses we shall, of course, work under an architect in the ordinary way, and we hope there will soon be a great many architects who make plans for pisé buildings. I should state that our name is really Rammed Earth Houses, Ltd., and that though we are quite new we are very enterprising.

RAY STRACHEY.

Housing Enterprise at Liverpool

Houses are being built at the rate of 1,000 a year at Liverpool, where the Economic Building Corporation has made great progress since it started work on the Garston site at the beginning of last June. The contractors, as Dr. Addison remarked during his recent visit to the site, "were setting about a big job in a big way." They have forty miles of light railway running at the back and in front of all the houses under construction, seven miles of pipes conveying water to every section of the site, portable elevators for carrying blocks and bricks up the scaffolding instead of by the old method of the labourer and his hod, wagon-loaders which speed up the rate and reduce the cost of handling such materials as sand, cement, gravel, and crushed stone, and other labour-saving devices and general plant to the total value of not less than £120,000.

The houses are being constructed throughout of concrete blocks and slabs, and all the materials are scientifically tested in the Company's own laboratory. The aggregate which goes to the making of the blocks and slabs is scientifically graded, and thoroughly mixed with the cement in the "Winget" chain-spade mixers.

One of the outstanding features of the undertaking is the welfare work organised in connection with the scheme. Besides the canteen, with its model kitchens, capable of serving 1,200 hot meals in a quarter of an hour, there are billiard, writing, and reading-rooms for the men (the whole costing the Economic Building Corporation not less than £17,500), and a medical establishment which, when complete, will include a resident doctor and a fully equipped Red Cross section. Classes are provided for the workmen, 85 per cent. of whom are ex-Service men trained on the spot.

The housing problem for the workmen themselves has been temporarily solved by the erection of hutments with sleeping accommodation for 400, while a fleet of old Army lorries and motor buses, also owned by the contractors, provide most of the remainder with free journeys to and from the job. A works' institute is run on club lines in conjunction with a committee on which all the various trades are represented, and already it boasts three good football teams, supplied not only with fine playing grounds, but also with dressing-rooms and baths both for themselves and their visiting teams.

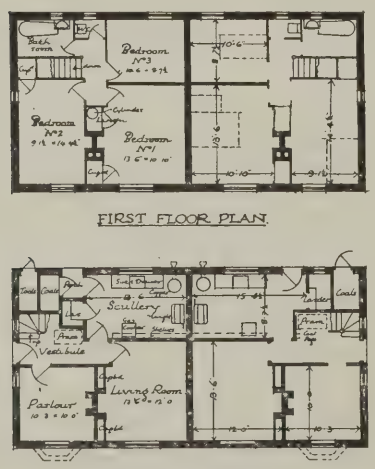
The same thoroughness and far-sighted enterprise are characteristic of the whole undertaking. So that the work may be rendered as independent of rain as possible, oilskins have been ordered for every man on the job, and it is even possible during the coming winter that some of the houses under erection may be supplied with fabric coverings in order that building operations may be continued without the usual interference from wintry weather.

A special factory has also been constructed for the protection of the concrete block yard during the winter. Here crete blocks and slabs will be produced matured, no matter what the weather ditions may be. Thirty-two "Win pressure machines, with their atter chain-spade mixers, produce all the b and slabs for the cavity walling v forms the essential feature of the Econ Building Corporation's system of cons tion. Originally the slabs for the ext walls were made by hand in alumi moulds, but the moulds have been s seded by the pressure machines al employed for the internal partitions machines having been specially adapt the Economic Corporation's syste walling.

The houses themselves are all o parlour type, with three bedrooms built in pairs and fours, and design various styles by Mr. F. E. G. Ba housing director of Liverpool. Part attention has been paid to the needs

SOME OF THE HOUSES ON THE GARSTON SITE OF LIVERPOOL HOUSING SCHEME

1

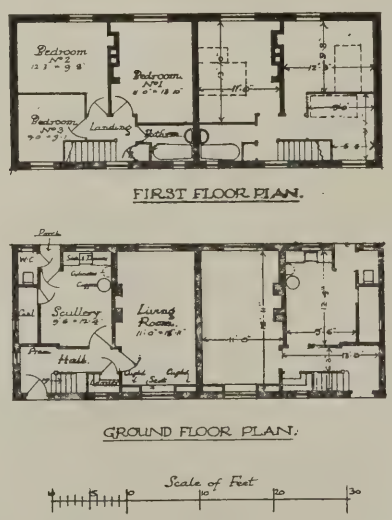


FIRST FLOOR PLAN.

GROUND FLOOR PLAN

F.E.G. Badger Assoc M Inst CE.
Director of Housing
Municipal Buildings
Liverpool, September 1920.

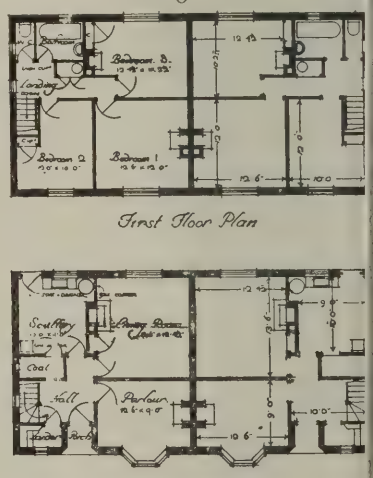
2



FIRST FLOOR PLAN.

GROUND FLOOR PLAN.

3



First Floor Plan

Ground Floor Plan.

Scale of Feet

1.—Pair of Parlour Houses (Type B), South Aspect.
2.—Pair of Living-room Houses (Type A), North Aspect.
3.—Pair of Parlour Houses (Type B), North Aspect.

GARSTON HOUSING SCHEME, LIVERPOOL: SOME TYPICAL PLANS.

HY-RIB as Centering for CONCRETE FLOORS

Means rapid construction at low cost and elimination of boarded timber shuttering.

Ordinary flat floor in Hy-Rib, ready for concrete being poured.
A minimum propping only. No close-boarded shuttering necessary.

HY-RIB is used as both centering and reinforcement with any type of beam —reinforced concrete, steel or wood.

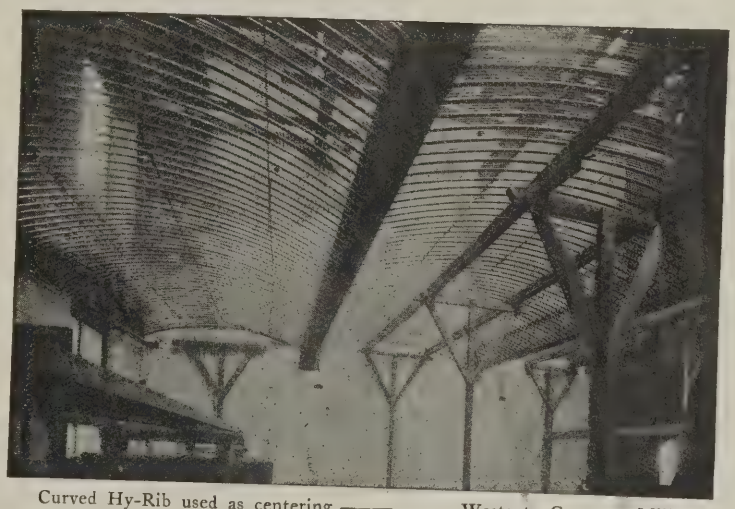
The HY-RIB is laid on the beams, then the concrete may be poured on immediately from above. When set, plaster is applied directly to the under surface.

No forms or false-work necessary, only some temporary props.

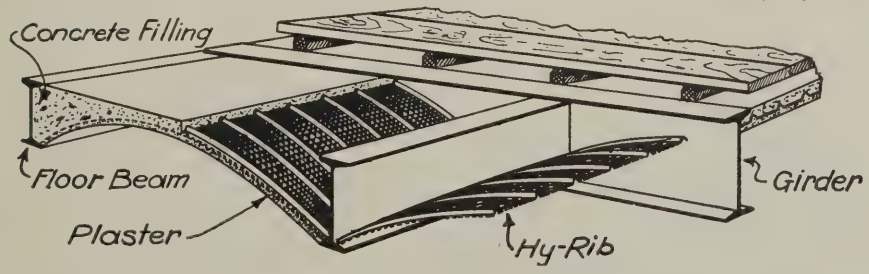
FOR heavy loading as in warehouses, granaries, mills, etc., curved HY-RIB makes arched floors of great strength and rigidity.

Curving and cutting to length (if desired) is done at our works. Simply lay the sheets between the beams, pour on the concrete aud the floor is made.

The wet concrete works through the mesh sufficiently to give a perfect key for plastering the underside.



Curved Hy-Rib used as centering.——————Westgate Common Mills.
Note the absence of timber shuttering or false-work.



Our new "HY-RIB HANDBOOK" is full of drawings, photos and practical information. Write to-day for your copy (post free).

THE TRUSSED CONCRETE STEEL CO., LTD.,
52, Truscon House, Cranley Gardens, South Kensington, S.W.7

THE

Cure for Damp Walls

IS

"PROTEX"

(BLACK CARBON EMULSION)

THE application of our **"PROTEX"** to the brick plaster, or other surface produces a pliable film or coating which entirely prevents the passage of any damp or moisture.

"PROTEX" never becomes hard or brittle, neither will it crack nor flake. It is easily applied, being put on cold with an ordinary brush.

"PROTEX" is a tenacious bonding medium, and plaster or cement can be affixed to any wood, metal, or other surface without the aid of any special key.

TRADE MARK

"PROTEX" gives a perfect damp-proof film, and the plaster can be applied directly to it, without furring or lathing, saving cost of materials and labour, and economizing space.

"PROTEX" can be papered over.

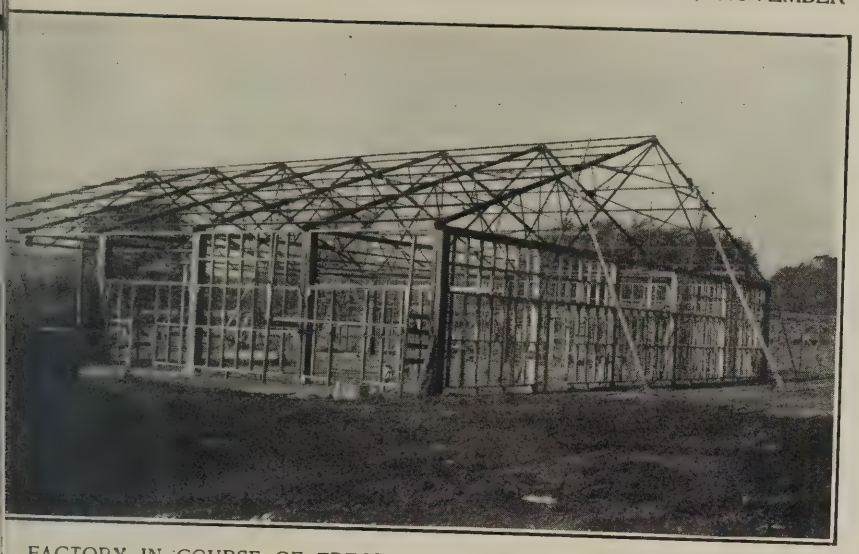
"PROTEX" is supplied in ½, 1 and 2 gallon cans, 5 and 10 gallon drums, and 20 and 40 gallon casks.

Booklet with full particulars from—

GEORGE M. CALLENDER & CO., LTD.

(Dept. PX.) 25, VICTORIA STREET, LONDON, S.W.

Telegrams: "QUARRIABLE, LONDON." Telephone: 4642 VICTORIA.



FACTORY IN COURSE OF ERECTION AT GARSTON, LIVERPOOL (FOR MANUFACTURING CONCRETE BLOCKS AND SLABS DURING THE WINTER).

ng-class housewife. There is a upboard on the landing, a good be in one of the bedrooms, a con- e grate in the kitchen, which can be d when necessary into a sitting- fire, a combination dresser which save much labour in the living- and a folding desk in the same room a row of book-shelves above), which make home lessons less of a burden yone concerned. Many of these are already roofed in. The con- s for the completion of the first ouses on the Garston site by May, nd the contractors claim to be well of schedule time. The plans on 56 are reproduced by courtesy of ng."

ompetitions Open

Lockerbie.

memorial; cost, £2,000. Apply ry, R.I.B.A. Closing date, 31.

Llandudno.

memorial to cost about £1,200. Ir. A. Conolly, Town Hall. Closing cember 1. (Banned by R.I.B.A. .)

Gateshead.

aph, in grey granite, to cost about Apply Mr. George Gill, West Gateshead. Closing date, er 1. Banned by R.I.B.A. and

East Ham.

ast Ham Hospital Committee in- petitive designs for the erection of l hospital in Shrewsbury Road, n, at a cost of £40,000. Assessor, rge Hubbard, F.S.A., F.R.I.B.A. or of the design placed first will nted architect, and premiums of £50 will be awarded to the authors s placed second and third. Apply, st Richardson, of "Montfitchet," herine Road, Forest Gate, E.7. ate, February 25.

Liége.

ent to commemorate the defence m against the German invader. ion francs has been subscribed oject. Apply M. Léon Maréchal, les Beaux Arts, Hotel de Ville, lgium.

ed House in a Large Town.

view to obtaining suggestions for the existing type of public-house, the Court of the Worshipful Company of Brewers offers premiums of £300, £150, and £50 for the best design for a licensed house on a given site. Competitors must be Members or Licentiates R.I.B.A. The President has consented to act as assessor. Apply Secretary, R.I.B.A. Deposit, two guineas, which will be returned to all competitors submitting bona-fide designs. Closing date, January 31.

Competition Awards

Proposed Congregational Church, Gerrard's Cross, Bucks.

The following awards have been made in connection with the competition for designs for a Congregational church at Gerrard's Cross, Bucks: First, Mr. H. Ascroft, Lic.R.I.B.A., "Ivy Lodge," Spencer Road, Mitcham, S.W.; second, Mr. E. Ford Duncanson, Lic.R.I.B.A., 1, Raymond Buildings, Gray's Inn, W.C.; third, Mr. Stanley Furner, A.R.I.B.A., 12, Normanby Avenue, Barnet, Herts.

Coming Events

FRIDAY, NOVEMBER 19.

Birmingham Architectural Association.—"An informal talk on Institute affairs," by Mr. John W. Simpson, P.R.I.B.A.

Royal Technical College Architectural Craftsmen's Society, Glasgow.—Open night.

Institution of Mechanical Engineers.—"Sterilisation of Water by Chlorine Gas," by Captain J. Stanley Arthur, O.B.E., B.Sc., A.I.C., R.A.M.C. (T.F.), of London. 6 p.m.

MONDAY, NOVEMBER 22.

Architectural Association.—Major H. Barnes, M.P., F.R.I.B.A., on "Architecture in the New World." 7 p.m.

Architectural Association.—Exhibition of drawings by the late Alick Horsnell, 10 a.m. to 10 p.m.

TUESDAY, NOVEMBER 23.

Liverpool Architectural Society (Incorporated).—"Character in Modern Architecture," by Professor C. H. Reilly, F.R.I.B.A.

THURSDAY, NOVEMBER 25.

Concrete Institute.—Presidential address by Mr. E. Fiander Etchells, A.M.Inst.C.E., A.M.I.Mech.E. 7.30 p.m.

Builders' Benevolent Institution.—Annual dinner in the Edward VII. Rooms, Hotel Victoria, Charing Cross, W.C.2, at 6.30 p.m. for 7 p.m., Mr. Walter Lawrence, F.I.O.B. (president), in the chair. Dinner tickets, excluding wines, cigars, etc., at 15s. each, can be obtained direct from the secretary, 48, Bedford Square, W.C.1, or from the stewards.

SATURDAY, NOVEMBER 27.

Architects' and Surveyors' Assistants' Professional Union (Metropolitan branch). Visit to the Soane Museum, conducted by Mr. Arthur Bolton, F.S.A., F.R.I.B.A., 2.30 p.m. Party limited to twenty-five. Members and Probationers only.

FRIDAY, DECEMBER 3.

Institution of Mechanical Engineers.—Further discussion on "The Human Factor in Industry," by Alexander Ramsay, of Lincoln. 6 p.m.

HOUSES OF CONCRETE BLOCKS AND SLABS UNDER CONSTRUCTION AT GARSTON HOUSING SCHEME, LIVERPOOL.

The Week's News

Plymouth Housing.

Work has commenced on the erection of 172 houses

Housing at Jarrow.

One hundred and forty-eight houses are to be erected on the Wood Terrace site.

Housing at Alfreton.

The Ministry of Health have sanctioned the borrowing of £16,000 for housing.

New Sanatorium for Leeds.

On 118 acres of land at Moortown, Leeds, it is proposed to erect a new sanatorium.

New Church at Kells.

A new church, to be known as the Church of St. Peter, has been erected at Kells.

Housing at Newcastle-on-Tyne.

Newcastle-upon-Tyne Electric Supply Company have decided to erect seventy-three houses.

Clowne Housing.

The scheme of the R.D.C. provides for seventy-two houses at Cresswell and sixty-four at Clowne.

New Town Hall for Islington.

Islington B.C. have decided to build a new town hall in Upper Street, at a cost of nearly £500,000.

East Grinstead Housing.

The U.D.C. are applying to the Public Works Loan Commissioners for a further £50,000 for housing.

Memorial Hospital for Scunthorpe.

Sketch plans and designs are being prepared for a new general hospital at Scunthorpe, to cost at least £70,000.

New Works for King's Lynn.

Plans have been approved by the T.C. for the erection of new engineering works at King's Lynn.

Forty Additional Houses for Blyth.

Plans have been pased by the Blyth and Cuckney R.D.C. for forty additional houses for the Harworth Colliery Company.

Hull Housing Schemes.

Seventy-two houses at West Hull have been commenced. An electricity substation is also to be erected on the West Hull estate.

Ilford Housing.

The first eight of the 500 houses that are being built in the Barkingside district with direct labour by the Ilford U.D.C. have been opened.

Housing at South Shields.

One thousand houses, consisting of seven different types of semi-detached houses, ranging in price from £900 to £1,026 each, are being erected.

Blackwell Housing Sites.

Four housing sites have been provisionally approved by the Ministry of Health. The housing scheme of the R.D.C. is estimated to cost £70,000.

Housing Proposals at Hales Owen.

Hales Owen R.D.C. have decided to ask the Office of Works to submit a scheme for the erection of 200 houses or more at Hill and Cakemore.

Oldham Builder's Will.

Mr. Charles Collinge Spencer, of Oldham, builder and contractor, who died on December 27, left estate of the gross value of £92,517, with net personality £59,707.

Cinemas for Sheffield.

Two cinemas are about to be erected in Sheffield, one in Barnsley Road and the other in Sharrow Road. It is also proposed to convert the Corn Exchange into a picture palace.

King Edward Statue for London.

In Waterloo Place, London, a bronze equestrian statue of King Edward is to be erected from the designs of Mr. Bertram Mackennel.

Housing in Scotland.

It is stated that of 16,003 houses for which tenders were approved by the Scottish Board of Health as at October 15 last, 1,464 are of stone, 13,485 brick, 462 brick with stone fronts, 86 concrete, and 506 of timber.

Cleadon Park Housing Scheme.

The foundation-stone has been laid in connection with the housing scheme of the South Shields Council, at Cleadon Park Estate. The scheme comprises the erection of 1,360 dwelling-houses, and the provision of an infectious diseases hospital and tuberculosis pavilions.

Proposed New Government Buildings.

The Treasury have decided that the State would benefit by purchasing sites and erecing its own telephone exchanges. Consequently an extensive building programme is expected. The British Museum trustees are pressing for a new building at Hendon, to cost £40,000.

Wallasey New Town Hall.

The new Wallasey Town Hall, erected to the designs of Messrs. Briggs, Wolstenholme and Thornely, FF.R.I.B.A., by Messrs. William Moss and Sons, Ltd., of Loughborough, has been opened by the Mayor. Plans, photographs, and a description of the Town Hall were published in THE ARCHITECTS' JOURNAL for December, 1919.

New Cinema for Airdrie.

Messrs. James Davidson and Son, architects, Coatbridge, prepared the plans for the new cinema at Airdrie just completed. It is constructed of brick and concrete blocks. The roof is of steel trusses, supported on steel columns, and covered with corrugated asbestos sheeting. Seating numbers, 1,450, and there is a large entrance hall.

Empire Timber Exhibition.

A report has been issued by the Department of Overseas Trade in connection with the Empire Timber Exhibition held in London during last July. This exhibition, as our readers will remember, afforded a striking and timely demonstration of the almost inexhaustible resources of the Empire in timbers suitable for every use, and it is hoped that it will lead to a continually increasing demand for Empire and home-grown timbers. From the financial statement embodied in the report, it is observed that no call has been made on public funds, and that the efforts of the Advisory Committee to make the exhibition self-supporting proved to be successful.

Aspects of Town Planning.

Mr. R. H. Mattocks, M.T.P.I. (Diploma Civic Design), has delivered a lecture on "Some Aspects of Town Planning" before the Sheffield branch of the Architects' and Surveyors' Assistants' Professional Union. Mr. Mattocks, who is in charge of the Sheffield civic survey under Professor Abercrombie, stated that as regards railways Sheffield was a very good model, as the main lines divided the industrial area from the residential area. Sheffield tramways and motor-bus system was made a special feature in showing the means of communication. Housing and sanitation, parks and open spa the grouping of civic buildings w dealt with.

Castle Ward Housing.

The Public Works Loan Boa agreed to make advances, amou £40,000, for the construction of The Board have also sanctioned vance of £850 for the site at Faw the last meeting the R.D.C. acce tender of Messrs. Straker and V the construction of fourteen hous Class A type, and plans were p ten blocks of semi-detached hous bungalow type (twenty houses alt eighteen semi-detached dwell Darras Hall, and one dwelling- Bridge Park Estate, Gosforth.

Trade and Cra

Trade in Canada.

Mr. F. W. Field, H.M. Trade sioner at Toronto, who has arrived in this country, is at pres Department of Overseas Trade, will be pleased to interview London desirous of obtaining in as to the possibilities of extend trade in Canada. London firm communicate with the Departmen seas Trade, 35, Old Queen Stree

English Electric & Siemens Sup

An amalgamation has been between English Electric Supp and the Lamp and Supplies Dep Messrs. Siemens Brothers and and as from November 1, 1920 ness will be carried on under t English Electric and Siemens Ltd., with registered offices House, 191 and 192, Tottenh Road, London, W.1. The suppl ment, with showrooms and stores 39, Upper Thames Street, Lond will be retained, and all o business in connection therewi dealt with from that address at The new Company, which has tage of retaining the same st London and the branch offices, on the business of both compa same lines as formerly and wit products, with the addition o trical devices shortly to be pla market. All orders unexecute obligations entered into b Electric Supples, Ltd., wlll out by English Electric and Supplies, Ltd.

Armourite Dampcour

We have received from M Briggs and Sons, Ltd., of Du interesting particulars of o specialities, Armourite dampco has several salient features. Ar medium between a wholly bitu wholly mineral dampcourse, a posed of five layers of material ternal layers of indestructible stance "armour plates" th waterproofing layers of finest men, these in turn being reinf centre core of untearable ca These component materials al ducts of nature are claimed Briggs and Sons to last inde to perform their functions as superstructure continues to ex process of manufacture the pro layers of mineral subs thoroughly amalgamated wit men and cannot, therefore, it be removed or destroyed by pressure. Armourite is rolls, 24 ft. long, and in all s widths.

RUBEROID

Roofing

2,000 yards of RUBEROID protect this building.

RUBEROID has proved efficient although the building is subjected to excessive vibration caused by heavy underground railway traffic.

For over 29 years Ruberoid has been in use on all kinds of roofs and buildings and whether laid on boards or concrete or for weatherproofing defective asphalt roofs always proves Economical, Reliable, and Durable.

Our Catalogue, illustrated with examples of our work, will be sent on request.

Made in three Colours
GREY, RED & GREEN

THE RUBEROID CO., LTD.
1, Waterloo House,
81-83, Knightrider St.
LONDON,
E.C.4.

Bell's Poilite—the ideal material for the construction of Bungalows, Cottages, etc., is a scientific combination of Asbestos fibre & best London Portland Cement

Bell's Poilite

(asbestos—cement)

It is fire-resisting, light in weight, non - conducting, weather-proof, rot and vermin proof.

BELL'S POILITE BUILDING SHEETS.

For both external and internal Walls, Partitions and Ceilings. For internal linings Poilite sheets are unsurpassed, being economical in first cost (saving at least 30% as compared with lath and plaster linings), and capable of effective decorative treatment. Panelled out with wood mouldings, they are attractive in appearance in their natural grey colour, and may be either papered or distempered if a suitable priming is used. Standard Sizes: 8ft. by 4ft., 6ft. by 4ft., 4ft. by 4ft., $\frac{3}{16}$in. thick and upwards.

BELL'S POILITE STANDARD DIAGONAL TILES.

A Poilite Roof is extremely strong, durable and weather-proof, and yet weighs 50% less than a roof of Welsh slates. A proportionately lighter under-structure is also rendered possible by the use of Poilite Tiles, thus promoting economy in Building Construction. Size: $15\frac{3}{4}$in. by $15\frac{3}{4}$in. Tiles are specially chamfered and punched with nail and rivet holes for laying to laps of $2\frac{3}{4}$in. to 4in.

Poilite

CATALOGUE GIVING DESIGNS OF POILITE BUNGALOWS, ETC., ON APPLICATION.

Bell's United Asbestos Co.,
Limited,
Pioneers of the World's Asbestos Industry.
Southwark Street, London, S.E.1.

B9.64

CONTENTS.

Edited by PROFESSOR A. E. RICHARDSON, F.R.I.B.A.

Notes and Comments: The Building Guilds; Government Buildings in the Parks; Avoidable Waste; The Lead Processes Bill; The Primate on War Memorials; The Inventors of the Telephone; The Institute Library; A New R.A. ... 561, 562

R.I.B.A. War Memorial Competition 563

The Week's News 564

Architectural Causerie: About the Albert Hall 565

The Treasure of the R.I.B.A. Library. By Rudolph Dircks, Librarian R.I.B.A. 568

Correspondence: New Bank Buildings, Princes Street; Central Heating for Small Houses 573

Government Hospitals, British East Africa 574

Law Reports: Heavy Claim for Repairs and Decorations 574

The Threatened City Churches ... 579

Building Stones 580

Hydro-Electric Power House, Aswan, Egypt 580

Enquiries Answered: Repairs and "Fair Wear and Tear"; Blowing Sand on Paint 583

Housing and Town Planning ... 583

Weekly Housing Report 583

Architecture and Town-Planning ... 583

Trade and Craft; Electric-fire Showcard; Hand-Power Dinner Service Lifts; The Importance of Good Lighting 584

Education in Industry 584

Land for Housing at Portsmouth ... 584

Northern Polytechnic Institute ... 584

A Correction 584

Competition News: Royal Engineers' Memorial, Chatham 586

Coming Events 586

ILLUSTRATIONS:

James Paine 559

War Memorials: 8—R.I.B.A. War Memorial Tablet Competition: Winning Design. By Trenwith Wills 560

Modern Architecture. I.—The Royal Albert Hall, London ... 567

Mr. Rudolph Dircks, Librarian 568

War Memorial Reredos in St. James's Church, Emsworth, Hants 570

Details of Craftsmanship. 6.—Portion of Oak Reredos in St. James's Church, Emsworth, Hants. Hepworth and Wornum, A.R.I.B.A., Architects. P. G. Bentham, R.B.S., Sculptor ... .

Houses in Princes Street, Lothbury, Erected from the Design of Sir John Soane in 1808 ..

The European Hospital, Nairobi B.E.A. Interior Court. Edwin J. Dod, Architect ... ..

Monumental Planning. III.—Suggested Scheme of Development for Sydney University ..

Native Hospital, Mombasa B.E.A. Administrative Block Edwin J. Dod, Architect .

St. Botolph's, Aldgate ... .

The Altar, St. Magnus the Martyr ... ...

Hydro-Electric Power House Aswan, Egypt ... .

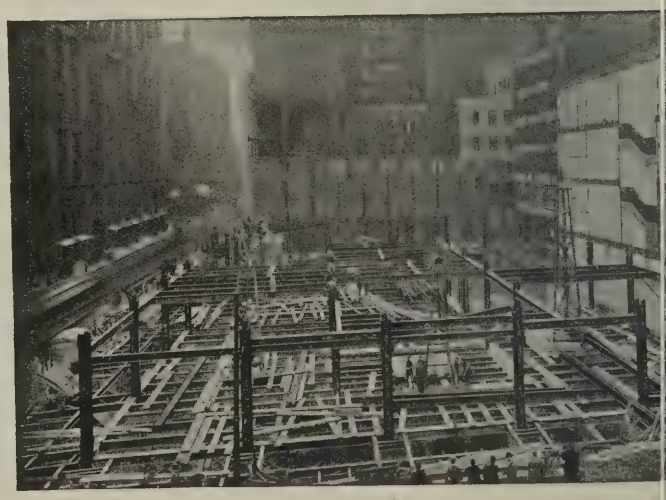
Current Architecture. 49.—Proposed Hydro-Electric Power House, Aswan, Egypt. D. A. Beveridge, Lic.R.I.B.A., Architect ... ...

EXPERIENCE

EXPERIENCE is just knowing things. We have been long enough in the constructional trade to know we have the right material to offer you — promptly. With the added intelligent anticipation of your wants the War has taught us, we stand ready for your enquiries. Experience of our service has pleased so many.

STOCKS OF
British Standard Sections in Joists, Channels, Angles, Tees, Flats, etc.

DAWNAY DEFINITIONS—5.



ARCHIBALD D. DAWNAY & S Li

Telephones: Battersea, 1094 (3 lines).

Steelworks Road, Battersea, S.W.11.

Telegrams: "Dawnay, Batts London."

And at East Moors, Cardiff.

Telephone: Cardiff, 2557.

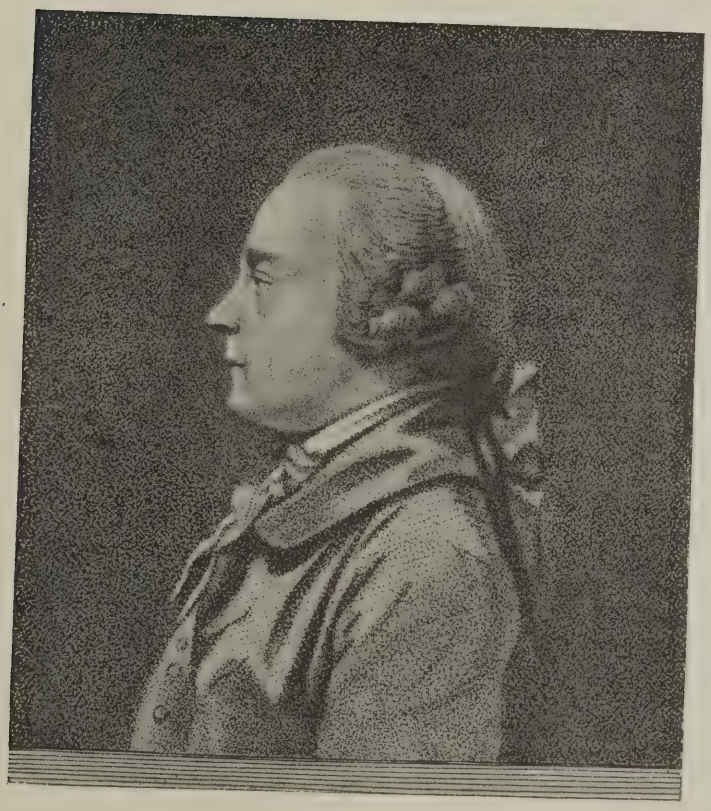
Telegrams: Dawnay, Cardi

Wednesday, November 24, 1920

Volume LII. No. 1351

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



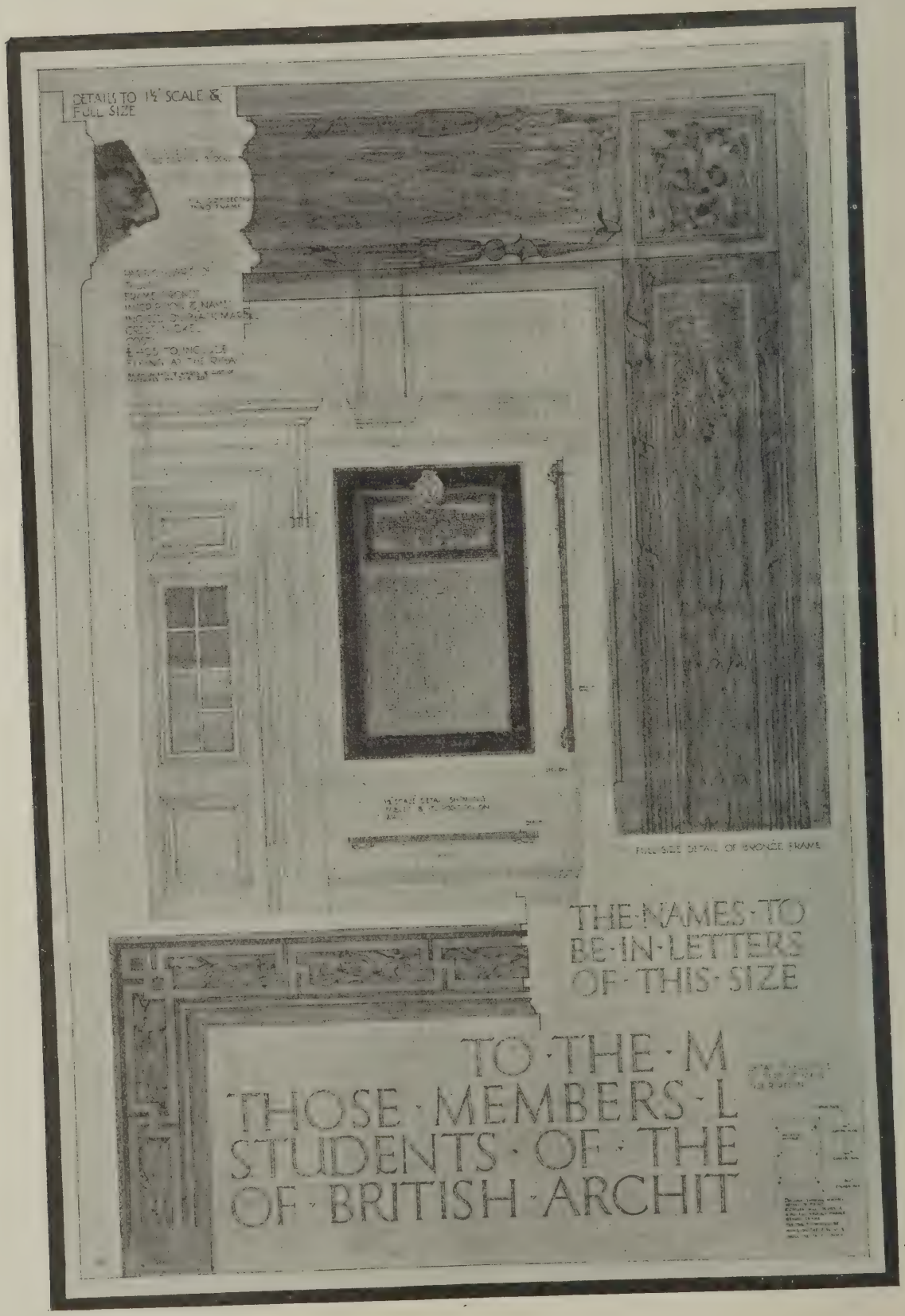
JAMES PAINE.

James Paine was born in 1725 and died in 1789. He is said to have been a student in the St. Martin's Lane Academy, and at the age of nineteen was entrusted with the work of Nostell Priory, Yorks. Later he left his mark unmistakably upon that county by the erection of several large houses and mansions for the gentry and nobility, notable among which was Lumley Castle, Sandbeck, for the Earl of Scarborough. His only son, James, followed in the same profession.

27-29 Tothill Street, Westminster, S.W.1.

War Memorials. 8.—R.I.B.A. War Memorial Tablet Competition: Winning Design

By Trenwith Wills



The designs submitted in the R.I.B.A. War Memorial Competition are now on exhibition at the gallery of the Institute in Conduit Street. The above reproduction, though it does not do justice to the original drawing, conveys some idea of the simple, dignified, and supremely appropriate character of the winning design. The frame is to be in bronze, the inscription incised in black marble, and the crest in nickel. The cost is estimated at £493, including fixing.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Wednesday, November 24, 1920

Volume LII. No. 1351

Notes and Comments

The Building Guilds

What are the prospects for the Building Guilds? Mr G. D. H. Cole, who, more than any man, except erhaps Mr. Penty, is qualified to speak on the subject, iscusses it very temperately and with candour in an rticle to which those of our readers who have not seen will like an exact reference. It appears in the aturday "Westminster Gazette," of November 20. Ve must confess that we do not share his confidence at "there is nothing to hinder a very rapid develop-ent of Guild building all over the country." Far be from us to condemn the League before it starts—and, y the way, it is taking an unconscionably long time to et to work—but it is always fair to estimate the ances of victory or defeat. Setting aside Mr. Cole's sinuations of a possible boycott of the guildsmen by e dealers in materials—a difficulty that would doubt-ss be to some extent overcome, as Mr. Cole suggests, ith the aid of the Co-operative Wholesale Society—e suspect that the movement contains within itself the rms of dissolution. To put the matter quite bluntly, e do not believe that even granting that they possess e organising skill of the trained master-builder, they ll be able to maintain the team-spirit that is essential success. Mr. Cole says: "The Guild leaders are ying on the fact that the Guildsman will feel that e Guild is his own concern, as he has never been able feel when he has been working for a private firm. He ll be himself a member of the guild, and will be itled to a share in its administration. . . . He will l, not merely that the Guild is his 'show' and that his fellows, but that it is nobody else's 'show,' and t no one is making a profit out of his labour." Quite and this is exactly how the trouble begins. "'Too ny masters,' the toad said to the harrow." Know-what we do of the psychology of building-trade kers, we stand awe-struck at Mr. Cole's sublime ocence of this guilty knowledge, and at the dread-disillusions that are lying in ambush for him.

vernment Buildings in the Parks

ord Gainford's resolution, which was carried in the ise of Lords last Wednesday by forty-one votes to en, was a plain indication of the public's growing atience with the burdens that are still imposed on so long after the necessity for them has ceased to bvious. The resolution was to the effect "that ctions should be immediately set on foot of the s of Government Departments, so that all lings which have been erected by the Government paces to which the public had access before the should be returned to the public for their use by 30 next, or that where such spaces were still red by the Government after that date Parliamen-sanction should be obtained for their further use." Gainford supported his resolution with every of argument except one that could have been drawn from æsthetics—one, moreover, that, in a more perfectly educated social state, should have been the most powerful weapon in his armoury. He must have felt, however, that, at present, civilisation reaches no higher than the breeches pocket, and his arguments in that domain were as cogent as they were disconcerting. It was economically correct to contend that the huts should be swept away for the sake of the saving involved in discharging their occupants; but to our mind the strongest reason for clearing away these ugly mushroom growths is that they destroy the amenities of the parks.

Avoidable Waste

That Nature is lavish is no excuse for the wastefulness of man. Our all-round wastefulness is appalling. During the war, when the necessity for scrupulous economy of the necessities of life was forced upon us, a National Salvage Council was formed in Scotland, and its functions are about to be taken over by a specially formed department of the Scottish Board of Health. Carefully prepared reports on its operations should be published regularly. They would convey much-needed instruction on a subject that has been strangely neglected. The Salvage Department of the Scottish Board of Health will confer a boon on humanity if they study the matter scientifically and deduce systematic means of refuse disposal—means that shall not themselves be wasteful, but, on the contrary, shall be a source of profit. If that is too much to expect, then health and tidiness must be deemed a sufficient reward. Not only are most houses choked with untidy and microbe-harbouring rubbish that cannot be easily destroyed, but our streets are littered with paper in quantities that, balancing the high wages of scavengers with the heavy cost of paper, surely it would be remunerative to collect. As for old tins, the cast-off coverings of fruit, fish, fowl, and other foodstuffs, some means must exist, and should be employed, to prevent the scandal of wasting every day many thousands of tons of precious metal. Examples of sinful waste of materials could be multiplied indefinitely, while the waste of time and labour is equally deplorable, and is as untidy in its effects. One example shall suffice. London roads and pathways are being constantly made untidy with pick and shovel, by successive incursions of the respective myrmidons of water, gas, and electricity. Of course, life would be made intolerable if these destroying agencies descended on us simultaneously, but in torturing the pathway in separate hordes, they seem to make the affliction perpetual. No sooner has the path been made tidy after one raid, than another attack undoes the work. Where the path is asphalted, concreted, tar-paved, or provided with some other goodly artificial surface, breaking it up and restoring it is an expensive business. Why should it be necessary to break the surface and cut a trench to mend a leaky pipe or cable?

These burials and exhumations should be at once discarded as a relic of pre-scientific barbarism. The respective vehicles or conductors of gas, water, and electricity should be collected into a watertight conduit that could be opened and closed without excavation, without making an untidy mess for the pavior to clear away at the ratepayers' expense, and without making every pathway a potential dangerous nuisance.

The Lead Processes Bill

Mr. Shortt, the Home Secretary, in moving recently the second reading of the Women and Young Persons (Employment in Lead Processes) Bill, made a rather cryptic statement about it. He said it was a Bill intended to carry out obligations under which this country rested to the International Labour Organisation of the League of Nations. The recommendations with respect to lead processes set up, he said, a minimum standard to which every country ought to attain. So far as this country was concerned, these recommendations would make little difference. "Where we differed from them, it was usually for the better." If that is so, will our obligations to the organisation entail levelling-down to the foreign minimum? This is not a carping inquiry. Circumstances might arise in which our foreign competitors might necessitate our coming into line. Lead processes, however, do not afford much scope for international complications, and Mr. Shortt probably meant that in this country the regulation of the manufacture of white-lead, for instance, could not easily be made more stringent, and that the use of this material in paint-making had been superseded by employing the entirely harmless zinc-white, which, besides being non-poisonous, does not cause the paint to change colour as white lead did. The horrors of lead-poisoning—painter's colic, wrist-drop, and general paralysis—are now happily very rare, and we are not at all likely to let them loose again upon the trade, even though the League of Nations Labour Organisation should deem our regulations too strict.

The Primate on War Memorials

It was fitting that the Primate should unveil the war memorial that has been put up in the parish church of St. Mary, Lambeth, by the general public. The church is commonly regarded as a part of the Archbishop's Palace, although there must still be living some few octogenarians who saw the church being rebuilt in 1851, all but the Perpendicular tower, which is of the fifteenth century. It was a timely word of the Archbishop's that while the burial of the Unknown Warrior in Westminster Abbey was a thing unique in national life, our central tributes and memorials would lose much of their value if they were not accompanied by local memorials in every part of the land. He longed to see such memorials in every parish, so that our young men might know that the mighty deeds and victories of the fallen were achieved by those who belonged to their own circles. The case for local memorials could not be more pithily put. A quaintly interesting memorial that has long decorated the east end of the south aisle of the church is the Pedlar's Window. The man commemorated bequeathed to the parisn a piece of ground worth, when he gave it, 2s. 8d. a year; but this "Pedlar's Acre," when sold to the London County Council as a site for their new County Hall, fetched £81,000, and, as land goes, was by no means dear at the price.

The Inventor of the Telephone

Is the telephone a boon? Perhaps it is as yet too early to answer a crucial question like that. For it would appear that the instrument was invented only yesterday. At any rate its inventor has just come over from the United States to pay a farewell visit to his native city, Edinburgh. He is, of course, Mr. Alexander Graham Bell, who was born in 1847, and educa at the Royal High School in Edinburgh and at University of that proud and stately city. As a ma of fact, he exhibited his first telephone in 1876, "all the world wondered" at an instrument that now become so common as to excite more annoya than admiration. Yet it is undoubtedly a "moc miracle," and is leading to developments that wil still more wonderful. Electrical transmission of so from a distance, or its magnification by electr means, has led to many valuable applications of wl some at least could not have been clearly foreseen the inventor. He could not, for example, have an pated that the microphone would play so importa part as it did in giving warning of the approach enemy submarines and aircraft. There are pessim who say that great inventions like the telephone do add to the complexity of life. Every architect im tuned by impatient clients, or by irresponsible me the job, who find it so much more easy to ring up architect than to think out a detail for themselves occasionally anathematise the telephone, but the ab to which the instrument is undoubtedly subject ar nothing in comparison with the advantages—o vital—of annihilating distance. Mr. Graham Bell trust, will live to see the day when he may spea America and be plainly heard in his native city Edinburgh. In the meanwhile, architects, a reg part of whose practice it is to arrange for telep installations, should pay more attention than the to the appearance of the instrument itself, and o "box" that sometimes encloses it.

The Institute Library

It was by a very happy inspiration that the libra of the Institute was invited to give an account o books and documents over which it is his pleasa anxious task to keep watch and ward. He was the enabled to make the first full revelation of the rich of his charge. Until now, the average member have been but little aware of the wealth of the Inst not only in rare editions, but in architectural worl all times and countries. It is a unique collec whether we regard the practicality or the preciou of its contents, and the scholarly paper in which Dircks so seductively commended his treasures give the library many fresh accessions of readers, we may hope, of books, although where they are stored is for the moment a rather embarrassing tion. Expansion implies an expense that in these times is terribly formidable. When, however great amalgamation takes place, and the united pr sion builds a suitable habitation for its headqua an enlarged library will doubtless form an impo part of the scheme; and the building to hold it w as thoroughly fire-resistant as modern methods make it.

A New R.A.

Mr. Charles Shannon, who was last Wedn elected a Royal Academician had been an Ass since 1911. He obtained his early art training excellent School of Wood Engraving at Lambeth has done much fine work in lithography. He exhibited an oil painting at the Royal Acader 1885, and the many works that have followed ir several classical subjects, such as "Tibellius i House of Delia," and "Hermes and the Bacchus." He is not to be confused with Mr. Jebusa Shannon, the distinguished portrait p who was elected R.A. in 1909, and is, of cours American by birth. Mr. Charles Shannon, him fine portraitist and a distinguished member National Society of Portrait Painters, is, architec be glad to note, an Associate of the Société Nat des Beaux-Arts.

The R.I.B.A. War Memorial Competition

THE awards in the R.I.B.A. War Memorial Competition are as follows:—1, Mr. Trenwith Wills, Student R.I.B.A., 24a, Yeoman's Row, Brompton Road, S.W.; 2, Mr. W. Harding Thompson, A.R.I.B.A., 38, Museum Street W.C.1; 3, Mr. Robert Cromie, A.R.I.B.A., 8, Gloucester Mansions, Cambridge Circus, W.C.2.

At the request of the Council, the President, Mr. John W. Simpson, acted as assessor.

The drawings are now on exhibition in the Institute Gallery.

The majority of the designs submitted are, it must be confessed, disappointing—many being heavy and untidy, and some even formless and obscure. The winning design (illustrated on the frontispiece of this issue) is, however, of a neat and unpretentious type, the author having, no doubt wisely, contented himself with devising a simple bronze frame within which, on a tablet of black marble, the names of the fallen are to be incised in good Roman lettering. The crest of the Institute, in nickel, should supply a necessary note of colour.

The second and third designs are also exemplary in their simplicity, and fully deserve premiation.

About forty sets of drawings are on view, and if, as is to be supposed, every competitor is represented, the proportion of members taking part is not particularly good.

The competition was open to Members, Licentiates, and Students of the R.I.B.A. who served in the Forces during the war. The choice of materials was left to the competitors themselves, but it was stipulated that the memorial should be so constructed that it might be removed and re-erected elsewhere in the event of this being necessary at some future time. Space was required upon the memorial for approximately 200 surnames, with initials only of Christian names (no ranks or regiments). The total cost of the memorial, fixed complete, was not to exceed £500, exclusive of honorariums and premiums. Mr. Trenwith Wills estimates that his design can be carried out at a cost of £493. The wall area upon which the memorial is to be placed is indicated on the outline drawing reproduced above.

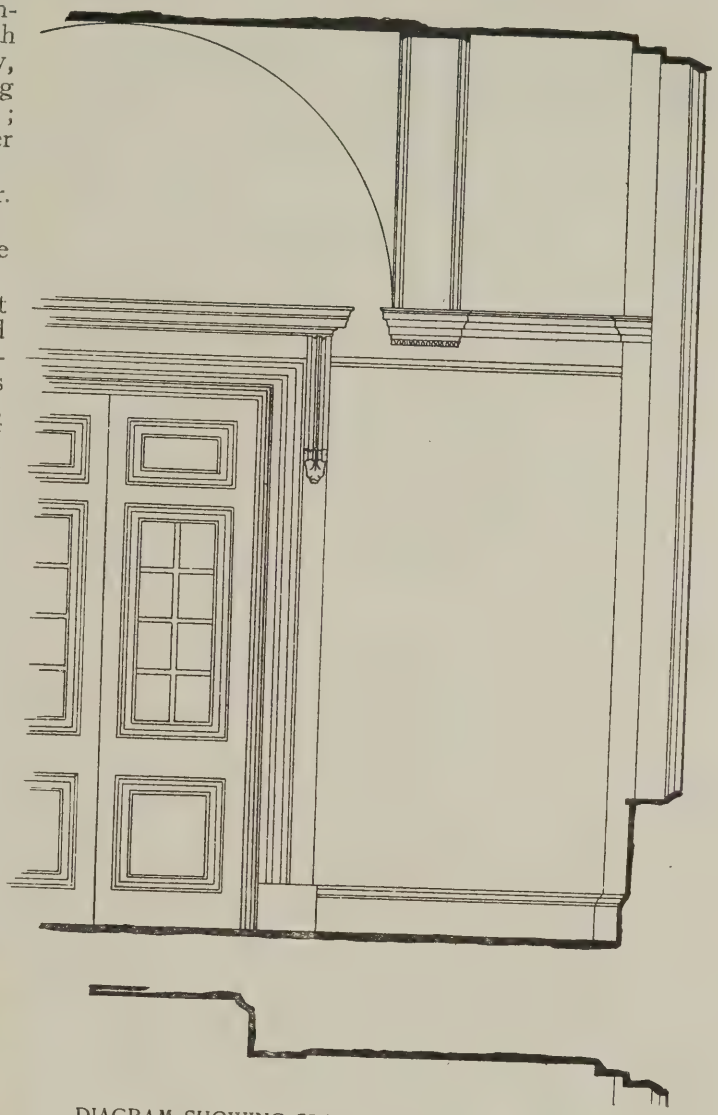


DIAGRAM SHOWING SPACE FOR WAR MEMORIAL.

MR. TRENWITH WILLS.

Mr. Wills, who, some months back, also won the competition for a memorial tablet to Royal Academy students killed in the war, received his architectural education at the Liverpool School of Architecture, subsequently proceeding to the Royal Academy schools, where he is still a student. He is at present studying in the atelier of Mr. Fernand Billerey. Mr. Wills, it may be recalled, won the Tite prize in 1914. During the war he served in the Essex Yeomanry. The portrait which we are able to reproduce was taken in 1916.

The Council of the Institute invite subscriptions, which should in no case exceed one guinea, for the erection of the memorial. Cheques or postal orders should be made payable to the Royal Institute of British Architects, and should be addressed to the Secretary, 9, Conduit Street, Regent Street, W.1. A ready response to this appeal may, we are sure, be anticipated from architects.

The Week's News

Schools and Air Raids

It was stated at a meeting of the London County Council Education Committee last week that concussion during air raids had affected school roofs and gables. An additional expenditure of £70,000 for repairs to buildings was recommended.

Marlborough College Competition

The Marlborough College Memorial Hall Competition drawings will shortly be on view. Mr. John W. Simpson, P.R.I.B.A., who was the assessor, has completed his task, and the names of the winners will be announced in a day or two.

£2,400 for Chippendale Commode

An exceptionally well-designed Chippendale commode, following the lines of the Louis Quinze period, realised £2,400 at Sotheby's last week. This came from Chastleton House, Moreton-in-Marsh. The much-discussed "Judith" panels of four Sheldon tapestries, from the same house, ten miles only distant from Barcheston, where William Sheldon established a factory in the sixteenth century, fell at £1,950.

£150,000 Hotel Sale

Once the headquarters of the U.S. Army in England, the Belgrave Mansions Hotel, Victoria, has been bought by Mr. George Cross and Mr. Davies, owners of the Rendezvous and other restaurants and hotels. The price paid is between £100,000 and £150,000. It is intended to make the ground floor an up-to-date restaurant on the same lines as the Rendezvous. The hotel, it is hoped, will be open within six months, the restaurant part probably earlier.

University of Edinburgh Half-million Scheme

An appeal for £500,000 is being issued by Edinburgh University, which finds itself faced with the urgent necessity of at once spending approximately half a million sterling on new buildings in the Departments of Medicine, Chemistry, and Natural History. The number of students has enormously increased (last session there were 4,643 matriculated students in attendance), and the requirements of practical teaching cannot be properly met without large additions to the existing laboratories.

Deadlock on Builders' Wages

After a long sitting and the hearing of evidence on both sides, the National Conciliation Board for the Building Industry last week failed to arrive at a decision regarding the claim of the London District of the Federation of Building Trade Operatives for an increase in wages of 8d. an hour. The application, which was for 3s. per hour for mechanics and 2s. 9d. per hour for labourers, may, it is understood, be renewed later. In an official report, the Master Builders' Federation state:

"At a meeting of the National Conciliation Board for the Building Trades to-day, the whole question was fully discussed by the board, and voting on all resolutions being equal, no decision was arrived at. The employers moved and voted unanimously in favour of the matter going to the Industrial Court for decision, but the operatives voted solidly against such arbitration. A deadlock exists, therefore, and all wages remain as they were."

One of the men's officials said yesterday that over 75,000 London operatives are affected, and, while immediate strike action by the trade unions concerned is not expected, it is understood that such action co now be taken without any previous notice of intent being given to the employers.

Doughty Estate Under the Hammer

Next Friday at Winchester House, the first sect of the Doughty estate, Holborn, is to come ur the hammer of Messrs. Nicholas (Albany Court-ya Piccadilly) by order of Sir Joseph H. B. Doug Tichborne. The portion to be submitted falls into main divisions—freehold ground rents, and freeh on tenancies, most of which are expiring in the future. The ground rents include one of £2,982 a y with reversion, forty-two years hence, to the Avenue Hotel, High Holborn, and another of £ a year on Brownlow House, adjoining the hotel, partly utilised as High Holborn post office. The holds are the entire island block forming the east of Bedford Row. It is composed of old Geor houses, with wide staircases, panelling, and decora features which give distinction to houses of that pe

New Society of Architects at Reading

At a meeting of Reading architects held last W nesday, it was unanimously decided to form a Rea Society of Architects, and a committee was appo consisting of Mr. Chas. Steward Smith, F.R.I. Mr. W. Roland Howell, F.R.I.B.A., Mr. H. Whit Rising, F.R.I.B.A., Mr. Arthur S. Cox, M.S.A., Frederick G. Sainsbury, M.S.A., Mr. H. S. Watki with Mr. Willcocks as hon. sec., to draw up a gested set of rules to be considered at a general ing to be arranged later. The formation of a B Bucks and Oxon Architectural Association was cussed, and it was decided to call a meeting of architects in the three counties later to conside matter and obtain their views. In the meantime i suggested that all architects interested in the form of such an association should be invited to com cate with Mr. C. B. Willcocks, F.R.I.B.A., 138, Street, Reading.

Relaxation of Building By-Laws

The Minister of Health has issued a circular to authorities drawing attention to the new regul with regard to the relaxation of building by-laws. principal alterations relate to roofs and damp courses. In a number of places where by-laws force requiring the roofs of new buildings to be c with incombustible material, proposals have be forward for the erection of houses roofed with or other combustible material. The Minister is a to facilitate the erection of such houses provide due precautions are taken against fire. Under t regulations, local authorities may allow such where certain conditions as to construction and p are satisfied. The principal condition is that, i to reduce the danger from the spread of fire, gr houses of this kind are to be separated from eac by at least the distances which are specified in th lations. The Ministry are having researches m order to ascertain whether measures cannot be t increase the fire-resistance of thatch. As damp-proof courses, it is sometimes found that ing not originally erected for human habitatio is of a substantial character and, though not p with a damp-proof course, is, in fact, quite dry with advantage be converted into a dwelling The regulations have therefore been amended under proper conditions, the insertion of dam courses in old walls need not be required.

(*News continued on page* 585.)

Architectural Causerie: About the Albert Hall

JUST now, when the majority of architects are still discussing the R.I.B.A. President's opening address, particularly his references to the character of modern works, it will not be inappro-riate to examine anew one of the most important modern uildings in England. The cry, "let us be modern!" avours to some extent of uncertainty intermingled with asconade. There cannot be a shadow of a doubt egarding the modernity of English architecture; hether we consider it in the Domestic School or in Civic esign, the building expression of to-day reveals our pibles, tastes, likes and dislikes, scholarship or ignor-nce, as nothing else does or could. If things were con-dered logically we should never have demands for uturistic innovation, neither should we censure scholar-hip for supposed insipidity.

* * *

During the past six thousand years architecture has ad time and occasion to clothe itself with complexity. deed, it reached the complex stage in those remote s when man began to translate primary forms into ndary ones—that is to say, when he complicated ters by remembering timber construction in his asonry, and vice versa. We must not fall into the are of labelling architecture as "modern," "original," "fashionable." If it is logical, efficient, and in good ste, it will continue to be respected. There is a ten-ncy to overlook the sequence of the national tradition, ecially regarding the later expressions of civic build-rs. It is forgotten that the nineteenth century, in dition to being a period of criticism and experiment, in lity brought about the present change, favouring an hitectural regime of traditional scholarship, one, more-r, that tends to become international in its scope.

* * *

Ve English are considered to be a conservative people, such a compliment does not apply to our instincts for lding. We can be cheaply sentimental, pompous, dry, insincere, acrobatic, and justify all the rest of Rabelaisian epithets by turn, merely because we sue novelty at the behest of those whose cry is "be lern." When the *mélange* of present-day architec-that disfigures the principal streets has become lowed by time and weather, taste and sensibility will, to be hoped, prevent any further display of archi-ral and sculptural pyrotechnics. We cannot help modern—can no more escape our period than the sun to stand still. It should be possible, how-, to prove to the public that the practice of architec-demands scholarship combined with scientific know-e and good taste.

* * *

aving delivered myself of the foregoing preamble, I et down to the gist of my talk regarding a building is not understood or appreciated at its full value r by architects or by the public. We all know the l Albert Hall; but it is safe to hazard that not one tect in twenty could give the name of the designer y particulars concerning the origin of this vast ng, which ranks among the great works of the rian era, and, in the opinion of our American ls, is without compeer even in the States.

* * *

e Monday in the last century—to be precise, the y-first of May, 1867—Queen Victoria, attended by t Edward Prince of Wales, in the presence of some nds of her subjects, laid the first stone of the build-cing the ornamental monument to the memory of ince Consort. In the speeches then made, it was that the Hall then projected was one of the results at by the success of the 1851 Exhibition, when it was proposed to form a common centre of union for the various departments of science and art. A prospectus issued in December, 1865, by the Provisional Committee, stated that her Majesty's Commissioners for the Exhibition of 1851 offered the site for the hall, together with a sum not exceeding £50,000 towards the preliminary expenses and the cost of erection. Matters were allowed to drift for twelve months or so, until it became essential to have some definite idea of the scheme on paper. The Provisional Committee, who comprised in their numbers many men of great influence, had no idea of employing an architect. Perhaps they were afraid of the Gothic School, and had before their eyes the terrible scorn of Palmerston. It was decided, however, much to the chagrin of professional architects, to entrust the preparation of the plans to Lieutenant-Colonel Scott, of the Royal Engineers, such plans to be approved by a Committee of Advice. Fortunately, as it transpired, this committee consisted of James Fergusson, J. Fowler, J. Hawkshaw, R. Redgrave, Sir William Tite, and Matthew Digby Wyatt.

* * *

The royal charter provided "that the purposes of the corporation shall be the building and maintaining of a hall and buildings connected therewith on the estate of the Commissioners of South Kensington, and the appropriation of the hall to congresses, performances of music, distributions of prizes, conversazioni, agricultural, horticultural, and the like exhibitions, national and international exhibitions of works of art and industry, and generally any other purposes connected with science and art."

* * *

Some years since, I had the good fortune to discuss this building with the late Mr. Phené Spiers, who gave me the following particulars: The original idea for the hall came from Captain Fowke, of the Royal Engineers, but it was left to Lieutenant-Colonel Scott, R.E., assisted by G. Townroe, to translate the scheme into concrete terms. The choice of materials fell upon brick, with terra-cotta for enrichment, as being the most suitable for the elliptical plans, involving much circular work and shaping. It became essential, in view of active criticism from outside, for the military designer to engage architectural assistants whose training included some knowledge of Italian detail. Among those chosen to assist in the scheme were the late Mr. Thomas Verity, who eventually designed the Criterion and many other London theatres, and Mr. Phené Spiers. The assistants had the good fortune to be sent to Italy at the expense of the Government to study the treatment of terra-cotta and brick detail from authentic models of the Renaissance.

* * *

We must certainly consider the Albert Hall to be one of the most remarkable buildings of the second half of the nineteenth century. In many ways it is equally meritorious with St. George's Hall at Liverpool. There is something Assyrian in the general appearance of the building externally; in so far as the tiering of the wall surfaces is concerned, these follow in principle the set-offs of the Chaldean ziggurats. But this reminiscence of the pre-classical is immediately dispelled by the dominant Roman theme, recalling as it does an enlargement of the Pantheon. It is impossible to imagine a building of this type being produced at any other period. It should be remembered that the teachings of Fergusson, the researches of Layard, the influence of the Classic School, with predilections towards the matured Renaissance of Italy favoured a logical yet ambitious rendering of the simple conditions set forth by the Royal Charter.

(*To be concluded.*)

The Treasures of the R.I.B.A. Library*

By RUDOLPH DIRCKS, Librarian, R.I.B.A.

WHEN the Institute was founded (in 1836) the formation of a library was one of the main intruments by which it was hoped to cultivate a more general knowledge of architecture at a time when libraries were rarer institutions than they are to-day.

Members of the Institute have every reason to be proud of their library, not only because it is the finest collection of books and drawings possessed by any architectural society, but also on account of its personal associations. One of the earliest documents in the possession of the Institute is a letter from Charles Barry (later Sir Charles Barry and the architect of the Houses of Paliament), dated from Foley Place, June 15, 1835, commending the formation of the library, and enclosing a draft for £20 for the library fund. There is another letter from Sir Charles Barry dated three years later (May 4, 1838), with which he forwarded the remarkable collection of original drawings by Bibiena, Pannini, and other distinguished Italian and French artists, which he presented to the Institute on behalf of Sir James Drummond Stewart. Professor Donaldson, Professor Hayter Lewis, Wyatt Papworth, and Professor George Aitchison were all enthusiastic in increasing the bibliographical value of the collection. Donations were constantly being made to the Library funds—Sir William Tite, for instance, gave in 1870 £500; but the most valuable gifts and bequests were books from their distinguished authors or collectors, men whose names occupy a prominent place in the architectural history of the last hundred years both in England and abroad. In the first published list of books printed in 1836, the names which appear first in the list are those of Percier and Fontaine, who presented a complete series of their published works. The library was indebted to the King of Prussia for the presentation of Lepsius's monumental work on Egypt. The Prince Consort presented various pamphlets, and amongst the distinguished authors who sent copies of their works are the Duke of Serradifalco (Sicilian antiquities), Canina, Schliemann, Texier, Viollet le Duc (who presented his Dictionary), Charles Garnier (who presented a collection of working drawings for the Paris Opera House, as well as six folio volumes of photographs of the sculpture and details of the same building). The most valuable contents of the libraries of James Fergusson, the historian, Professor Donaldson, Arthur Cates, and many others were bequeathed to the Institute library in which they had so often worked.

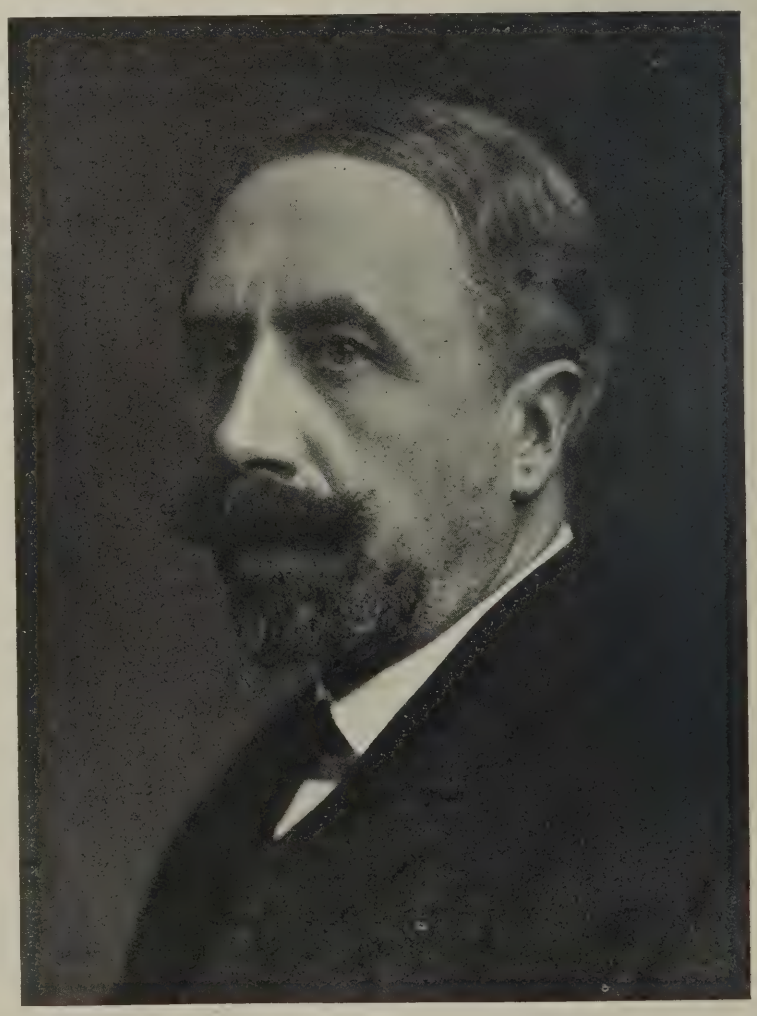
Two publications with which the Institute or its members have been closely associated are the Institute Transactions (since 1892 known as the Institute "Journal"), and the eleven volumes (eight of text and three of illustrations) comprising the "Dictionary of Architecture" published by the Architectural Publication Society, one of the most useful books of reference to the student of architecture that has ever been published. This dictionary was compiled by ninety-one contributors, but the main labour of research and compilation was undoubtedly undertaken by Mr. Wyatt Papworth, the honorary secretary, who for forty-three years (the work was completed in 1892) must have given his time almost unreservedly to the task. The dictionary contains 18,456 articles, 2,288 folio pages, and 152 plates.

Scope of Library

The contents of the library cover pretty well the chronology of architectural literature from the time of the publication of Vitruvius (in 1846) to the present time, contained in some 19,000 volumes, over three thousand pamphlets and many thousands of architectural drawings, photographs, and engravings, and a few original manuscripts.

The ten books of Vitruvius gave the first impetus to modern architectural literature, even before their appearance in printed form. He, as a writer, suggested an attitude and outlook towards the art of architecture that influenced all the early writers, Italian, French, and English. The library possesses one of the most complete collections in existence of the various editions of Vitruvius. The first edition was published in Rome in about the year 1486, about forty years after the invention of printing with movable It was translated into Italian in into German in 1548, Spanish in French in 1547. An abridgement the French of Perrault was publish London in 1692, but it was not until that the first translation was made the Latin of Wm. Newton. All thes included in the Institute library.

Alberti was the first of a line of d guished Italian architects who wrote architecture, the most celebrated o successors being Sebastian Serlio, B da Vignola, Vincenzo Scamozzi, Andrea Palladio, whose works bot architecture and literature had a d ating influence on European archite and upon architectural theory. The of these Italian authors as well as others of lesser prominence are adequ represented in the Institute library. the ground of association, the Ins library is probably happiest in the p sion of the Serlio quarto edition of which contains a note in the handw of Sir James Thornhill, the artist is associated with Wren in the d tion of St. Paul's and Greenwich pital: "This was Inigo Jones's afterwards Mr. Webb's (name blotted), then Mr. Churchill's, then Thornhill's." The Mr. Webb w



MR. RUDOLPH DIRCKS, LIBRARIAN OF THE R.I.B.A.

* Extracts from a paper read at the R.I.B.A. on Monday, November 15.

Modern Architecture. 1.—The Royal Albert Hall, London

In this week's "Architectural Causerie" "Aero" claims that the Royal Albert Hall, never properly appreciated by Londoners, is really one of the most remarkable buildings of the second half of the nineteenth century—equally meritorious, in many ways, with St. George's Hall, Liverpool. The original idea of the hall came from Captain Fowke, of the Royal Engineers, but it was left to Lieut.-Col. Scott, R.E., assisted and advised by many experts, to translate the scheme into concrete terms.

oubt John Webb, Inigo Jones's relative r son-in-law.

"Regola delle Cinque Ordini D'architettura" became the standard text-book of rench students and architects. His other ook was "Le due Regole della prospettiva pratica." His works are represented the library by various Italian editions, hich contain the additional plates of doorays by Michelangelo. Bound with the oman edition of 1617, with the engravgs by Francesco Villamena, is a book by ntonio Labacco on Roman antiquities, ntaining thirty-six plates, including titleage and a page of text. Labacco, who as a pupil of San Gallo, lived in Rome for ty years, and these plates are from the st edition of a work published in 1557.

Palladio

It was, however, a famous contemrary of Vignola, Palladio, whose thority became the dominating influence English architecture which was to some ent due to the enthusiasm of Lord rlington. The first edition of Palladio's Quattro Libri dell' Architettura," published in 1570, ten years before his death Venice, contains the autograph of rd Burlington on the title-page, and no ubt formed part of his library. The rary also possesses various editions of work and two other books by Palladio. well-known copy of Palladio in Worter College library, Oxford, contains rginal notes by Inigo Jones. Lord rlington published in London in 1730, private circulation, a selection from the wings of the baths with the Italian title, bbriche Antiche disegnata da Andrea adio e date in luce da R. Conte di Burton" (fo., Lond., 1730), containing en double and eight single plates, a volume, of which the library possesses opy.

he fourth great protagonist of the an Renaissance and authority on the rs and principles of architecture, Vin Scamozzi, published two books, the at Venice in 1583, "Discorsi sopra ichita di Roma," with forty copper engravings by Battista Pittoni, a er Vicentino; the second, published y-two years later (fo., Venice, 1615), ining in the two volumes 722 pages, ut including a copious and useful . The first editions of both these s are on the library shelves.

th the works of Piranesi we arrive in at a culminating point of architec- draughtsmanship. The seventeen es possessed by the Institute (includ- he famous Carceri volume) form a complete set of his engravings, and tated by Mr. Hind, the authority he various states of the plates, orm a good set. Piranesi, gh he was never in England, s we know, intimately associated Robert Adam (to whom he dedi- the 1762 edition of his "Il Campo dellAntica Roma)", and a friend orge Dance, Robert Mylne, and English and Scottish architects of ghteenth century. Piranesi en- some plates for the "Works on cture" by Robert and James Adam lates of sections and details of Sion in Part IV. of the second volume) rgest," according to the authors, s ever attempted in regular archi- " and he engraved for Robert view of two arches of Blackfriars while these were in the course of tion, which was published in 1766.

When Peter Paul Rubens visited Italy, between the years 1600 and 1608, he remained longer at Genoa than in any other part of Italy, and "as an occupation of secondary importance he took sketches of the most interesting palaces and churches in Genoa, which were afterwards published in two folio volumes of engravings, "Palazzi di Genova," published at Antwerp in 1613-1622. Mr. St. Clair Baddeley's present to the Institute comprises 120 of the 139 original drawings made for this book, supplemented by sixteen copperplate engravings of the drawings which are missing, all bound together in one folio volume.

Philibert de l'Orme's "Nouvelles Inventions pour bien bastir et à petits fraiz" did not appear until 1561, and a treatise on Geometry and the art of setting out sundials, by Jean Bullant, was published in the same year. The library contains an extensive collection of the French authors from the time of De l'Orme to the present day. There are, however, some serious gaps. The works of Jean Bullant, one of the first most typical architects of the French Renaissance, are not, for instance, represented in the collection. Perhaps my mentioning the omission may induce some lucky possessor of his works to despoil himself in the interest of a larger public. It is regrettable, also, that the library has only in facsimile the complete edition of the books of Jacques Francois Blondel, although there is an imperfect copy of the original edition. Three great contemporaries—Bullant, De l'Orme, and J. A. Du Cerceau—are identified with the early architectural literature of France.

De l'Orme's contemporary, Jacques Androuet du Cerceau, devoted himself more to the study of design and to illustration. There is some conflict of opinion as to whether Du Cerceau was an architect, whether, indeed, he was more than a draughtsman and an illustrator of architecture.

English Architectural Literature

Turning to England, Mr. Dircks mentioned that the Institute library contains "The First and Chiefe Groundes of Architecture," by John Shute, a folio volume published in London in 1563, a very rare volume.

Inigo Jones was the author of only one published work, "The Most Notable Antiquity of Great Britain, vulgarly called Stone-Heng, on Salisbury Plain, Restored," which was not published until after his death (by his son-in-law, John Webb). The library contains a copy of the 1725 edition. In this remarkable treatise Inigo Jones arrives at the conclusion that this "antient and stupendous pile must have been originally a Roman Temple and built after the Tuscan Order."

In the drawings of the Burlington-Devonshire collection we are brought into closer touch with Jones. There are some seventy or eighty drawings, either by him or reasonably attributed to him. The library also contains a facsimile copy of the sketch-book which Jones used in Italy during his second visit in 1614. The copy was reproduced in facsimile by the Duke of Devonshire in 1832, and only 100 copies were printed. The Institute copy was presented by the Duke to Decimus Burton in 1836. In the library are also most of the original drawings of "The Designs of Inigo Jones," which Wm. Kent and H. Flitcroft published in 1737.

Among topographical and other works of architectural interest, the lecturer mentioned Lambarde's "Kent" and Stow's "Survey," Neale's "Noblemen's and Gentlemen's Houses of Great Britain," Nash's "Mansions," and Richardson's "Old English Mansions," Britton's "Cathedrals," and his "Antiquities of Great Britain."

Wren's Parentalia

The Institute is indebted to Mr. (now Sir) Laurence Weaver for possession of two of the most interesting contributions to the collection, the interleaved heirloom copy of the "Parentalia," which remained in the possession of Sir Christopher Wren's family until 1911, when it was purchased by a generous group of subscribers from Mrs. Pigott, since dead, the last surviving direct descendant of Wren, and for a copy of the third edition of Sir Thomas Elyot's "The Boke named The Governour," the 1546 and third edition, which bears on the title-page the autographs of Christopher Wren's father, and of Sir Christopher Wren himself. The interleaved copy of "Parentalia" contains a large number of inserted engravings, as well as numerous letters and documents in manuscript which show Wren's wide interest in physical and natural science.

The eighteenth century, which was prolific in the production of architectural books, gave us the useful, if at times misleading, works of Batty Langley. A number of publications by architects showing their own designs, of which Thomas Rawlins's "Familiar Architecture," published 1768, is a type, are interesting expressions for the most part of domestic architecture in the style of the period. Campbell and his collaborators, or those who followed him, Woolfe and Gandon, Richardson, and Robinson, from 1717 and 1835, covered a wide field of contemporary buildings. For knowledge of classic architecture British architects previous to the eighteenth century were indebted primarily to foreign sources, and even in the few instances in which illustrations of the architecture of our country were given, the draughtsmen and engravers were usually men of foreign birth. There is in the publication of architectural books in this country, in their form and scale, no period to compare with that of the eighteenth century. Founded in 1734, the Society of Dilettanti was responsible for the publication of the "Ionian Antiquities," and Penrose's "Investigation of the Principles of Athenian Architecture." Another most potent influence was a leading spirit of the society, Richard Boyle, the third Earl of Burlington, who caused translations to be made of the works of Alberti and Palladio, who discovered Palladio's drawings of the Roman baths and other buildings. These drawings form part of the Burlington-Devonshire collection. The library contains many documents belonging to this period and later. A few years ago the Society of Dilettanti presented to the Institute a set of plates engraved between 1820 and 1840 from members of the Second Ionian Mission sent out by the Society in 1811, together with many original drawings. Many of these were subsequently published by the society (in 1915) under the editorship of Professor Lethaby in a folio volume. Apart from the publication of classic work promoted by the Society of Dilettanti, the library contains the original drawings of Robert Wood's "Ruins of Palmyra" (1753), a notebook in which James Stuart

made notes and sketches during a tour in Italy, as well as eighteen water-colour drawings of buildings in Greece.

The library possesses Willey Reveley's manuscript notes and criticism on the architecture of Italy, and his diary of a tour in Greece and Egypt, whither he accompanied Sir Richard Worsley as his draughtsman and architect. He was abroad during the years 1785-1789. In the following century we have the diaries and sketches of J. L. Wolfe, who accompanied Sir C. Barry to Italy and Sicily in 1820. Later there is the diary of Sir Charles Barry, containing notes and quick pencil sketches of a tour taken in the autumn of 1842, depicting the Rhine castles and details of buildings at Nuremberg and other places. Then there are various books of accounts in connection with Greenwich Hospital, the Horse Guards, and Somerset House.

Elmes and St. George's Hall

Amongst other original documents of this period is an original sketch of St. George's Hall, Liverpool, by the architect, H. L. Elmes. Professor Richardson, in his volume, "Monumental Classic Architecture in Great Britain during the Eighteenth and Nineteenth Centuries," has quickened interest in the architectural work of this period. An interesting possession is the MS. of the lectures delivered in 1768 by Thomas Sandby, the first Professor of Architecture at the Royal Academy. The Institute is fully equipped with the literature of the period of the Gothic Revival—by the Pugins, the Brandons, and by J. K. Colling, Turner and Parker, Dollman and Jobbins, and T. M. Rickman—and the collection includes many original drawings of the same period. Since Mr. Townsend read his paper on the Institute Drawings, the collection has been increased by considerable collections of the works of Wm. Burges, Norman Shaw, Wm. Butterfield, and others.

In conclusion, Mr. Dircks said: "In a bird's-eye view much that is interesting is lost, and I am conscious of many omissions. But I hope that you may have gathered from what I have said that in its contents members of the Institute rejoice in a unique and precious heritage."

Discussion

Dr. A. E. Cowley, librarian of the Bodleian, in moving a vote of thanks to Mr. Dircks, congratulated the Institute on having, first, such a library, and, secondly, such a librarian.

Sir Charles Hercules Read, President of the Society of Antiquaries and Keeper of British and Medieval Antiquities and Ethnography at the British Museum, seconded the vote, and said that whether one was an architect or not one could not help being interested in Mr. Dircks's paper. It was upon a theme which appealed to every human being.

Mr. Wm. Woodward, F.R.I.B.A., who supported the vote, mentioned how familiar Mr. Dircks was with the position of every book in the R.I.B.A. library.

Mr. H. H. Statham, F.R.I.B.A., spoke of the inadequate provision for the ever-increasing volumes. The library was continually increasing, but space did not increase. And, again, were all those valuable works sufficiently safeguarded? They should be kept in a fireproof building.

Mr. C. F. A. Voysey was of the opinion that Mr. Dircks's account of the library rather accounted for the badness of our architecture. The architects of to-day studied an appalling collection of other people's works and neglected our own requirements and conditions. Quoting Lecocq, he suggested that the more we studied the past, the less we understood and appreciated the present.

Mr. W. H. Ward, F.R.I.B.A., thought it would be a valuable result of that evening's paper if the Institute Council could be brought to take a more serious interest in safeguarding the library from fire. One trembled to think how, in a few hours, all those books, which had taken so many years to bring together, might be destroyed.

The Chairman, Mr. Walter Cave, in putting the vote, said the Council had had the library's requirements under consideration, and it was suggested that the Literature Standing Committee should draw up a report.

Mr. Dircks, responding, said that he thought the shelving should certainly be extended. They had thousands of volumes with no room for them. He did not take Mr. Voysey altogether seriously, because when he had been in Mr. Voysey's chambers he noticed that he had a fair number of books, and he knew very well that Mr. Voysey had read them.

[The Editors of this journal are gl seize the present opportunity to offer sincere congratulations to the Institu its possession of so scholarly and so formly courteous a librarian as Mr. Di We venture to add that our readers will gladly allow us to express the th they owe him for the facilities he h often afforded us of giving wider p city to some of the many priceless sures of which he is the zealous but li minded custodian.]

Publications Receive

"Design and Tradition" (Uni Arts Series). By Amor Fenn. Pric net. Chapman and Hall, 11, Her Street, Covent Garden, London, W.

The A B C of Storage Battery Ma ment. By Ernest C. McKi A.M.I.E.E. Price 3s. 6d. net. Ele Press, Ltd., 15-16, Fisher Street, ampton Row, London, W.C.1.

Report on the Commercial, Indu and Financial Situation of Japan, 1 1919. By Mr. Hugh Horne, Comm Secretary to H.M. Embassy, Tokyo. 9d. net. H.M. Stationery Office.

Report on the Trade, Industry Finance of Morocco. Price 1s. net. Stationery Office.

WAR MEMORIAL REREDOS IN ST. JAMES'S CHURCH, EMSWORTH, HA

(See opposite plate).

Details of Craftsmanship. 6.—Portion of Oak Reredos in St. James's Church, Emsworth, Hants

Hepworth and Wornum, Architects P. G. Bentham, R.B.S., Sculptor

Although it is nowadays fashionable to think otherwise, there is really no doubt that contemporary artists are fully capable of producing detail of Gothic character as fine in design and execution as the best work of the mediæval period. In the present instance, architects and sculptor have combined to produce a design of rare delicacy and refinement. The painted panels, shown in the complete view opposite, are by Mr. Maurice Grieffenhagen, A.R.A.

Correspondence

New Bank Buildings, Princes Street

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—In Aero's interesting causerie on "Soane and the Bank" in your last issue there is one unfortunate slip. New Bank Buildings (1808-10) was not demolished seventy years ago, because I remember it perfectly well. Built of white brick and Portland stone, it was a very characteristic and interesting composition. I have much pleasure in lending you a lithograph from the building made by C. J. Richardson, Soane's devoted pupil, who, with George Bailey (the first Curator of the Soane) was with his master up to the veteran's death on January 20, 1837. Your block is probably from a lecture diagram or some other study for the buildings as proposed to be built. Soane was always making what are apparently final drawings, but which are really only studies, and when once the building has gone it is often most difficult to be sure what was after all built. That is, of course, before the days of real architectural photography.

Perhaps I may add that "New Bank Buildings" was a group of five private houses. One, for instance, was occupied by the father of the late Edwin Freshfield, LL.D., late Senior Trustee of the Soane, who was born in the house. He used to relate that he well remembered how asses used to be driven up to the back door in Old Jewry for the supply of the children's milk. Immediately behind the houses was the famous National Debt Redemption Office (1818-19) with the domical Pitt cenotaph, which was destroyed on the quiet a few years ago. Only the bronze statue of Pitt by Westmacott remains as a record of that National Bond campaign following after the great wars ended in 1815. It appears to be the case that no photographs even were taken of this fine interior before it was demolished. The models are in this museum.

A. T. BOLTON, F.S.A.,
Curator, Soane Museum.

Central Heating for Small Houses

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—My attention has been called to a letter in your issue of November 3 commenting on the discussion following the reading of a paper before the Society of Architects.

I must admit the cleverness of the writer in turning what was plainly an engineering explanation of a system widely used in America into an advertisement of their particular type of apparatus, although I do not approve their ethics in so appropriating it.

Allow me to state that I am in no way connected with the company mentioned or with the manufacturers in America whom they represent. I tried in my paper to make it very plain that there was nothing patentable or even new in principle in this method.

It simply has proved a workable method, adopted in the States to the extent that probably no fewer than 100,000 were installed in the year 1919 alone.

I do not know, nor have I any interest in, the number put out by the company in question. They are only one of perhaps fifty reputable manufacturing concerns producing heaters of this type.

As to whether the heater should be called one-pipe or pipeless is a designation only. It has one heat-discharge pipe, so I prefer the "one-pipe" as best describing it. I seem to be sustained by good authority, too, as in the "Saturday Evening Post" of October 30 Lucian Cary's story contains this paragraph:

"She was the nicest old maid you ever saw," Jimmy said. "She told me it was the kind of a place she'd dreamed about all her life. She's going to put in a bath and a *one-pipe furnace* and flower boxes and live there the rest of her life."

The italics are mine.

Relative to the specific answers to Mr. Nobbs's questions, I had already sent the Society of Architects a letter covering the points apparently omitted.

I cannot fully endorse all the claims made in the answer referred to for this method. It has its limitations, and these are recognised by even its most enthusiastic supporters in America. None the less, for thousands of homes it has proved the simplest, most economical, and satisfactory method possible.

I hope you can give this as wide publicity as you did the comment in question, for I dislike to think that any of the gentlemen who gave me such a courteous hearing should feel that I had used the occasion to exploit a particular product, however worthy it might be.

CLARENCE M. LYMAN.
Hotel Bentinck, Margaret Street, W.1.

HOUSES IN PRINCES STREET, LOTHBURY, ERECTED FROM THE DESIGN OF SIR JOHN SOANE IN 1808.

Government Hospitals, British East Africa

Apropos of the great competition for a new hospital in Cairo, promoted by the Egyptian Government (particulars of which have been announced exclusively in this journal), it is interesting to study the details of some hospitals erected in tropical Africa. These are the European hospital at Nairobi and the Native Hospital at Mombasa, built from the designs of Mr. Edwin J. Dod, architect, of Liverpool.

With regard to the Mombasa Hospital, separate cook houses and latrines are arranged at the eastern end, the whole enclosing a large open quadrangle. The wards are placed east and west with blank walls at their ends; thus the rays of the rising and setting sun are excluded. The verandah of the administrative block, which faces west, is shaded for a similar purpose.

The buildings are built of roughly squared coral stone, 2 ft. thick, plastered over and lime-washed. Coral is very porous and forms extremely good insulating medium. The buildings were completed in 1908 at a cost of about £10,000.

The Nairobi hospital was built in 1908 at a cost of about £15,000. It is situated on rising ground overlooking the Great Athi plains, 1 deg. south of the equator, at an altitude of 5,000 ft., and is designed for the accommodation of Europeans only.

The external walls are constructed of a light grey-coloured volcanic stone from a local quarry, and the roofs are covered with very pleasing red-coloured inter-locking tiles obtained from Mangalore, India. The colouring of the building harmonises well with the evergreen shrubs which surround it.

The boys' quarters and cook houses are kept well away from the buildings; the covered ways shown are very useful in keeping the building clean during the rainy season.

THE EUROPEAN HOSPITAL, NAIROBI, B.E.A. INTERIOR COURT.

The operating theatre is lofty, and has through ventilation and top lighting; it is not possible to use either a north or a south light as we should a north light in this country.

When dust storms occur, which generally sweep up from the north-east, all the windows and doors on that side are closed, and ventilation of the wards is maintained through the wide corridors opening on to the large enclosed garden. The windows are 9 ft. 9 in. high by 4 ft. wide, double-hung sashes with large hopper tops, all in teak. The doors are also of teak with hopper-top ventilators carried up to the ceiling level, the height from floor to ceiling being 12 ft. 9 in.

Law Report

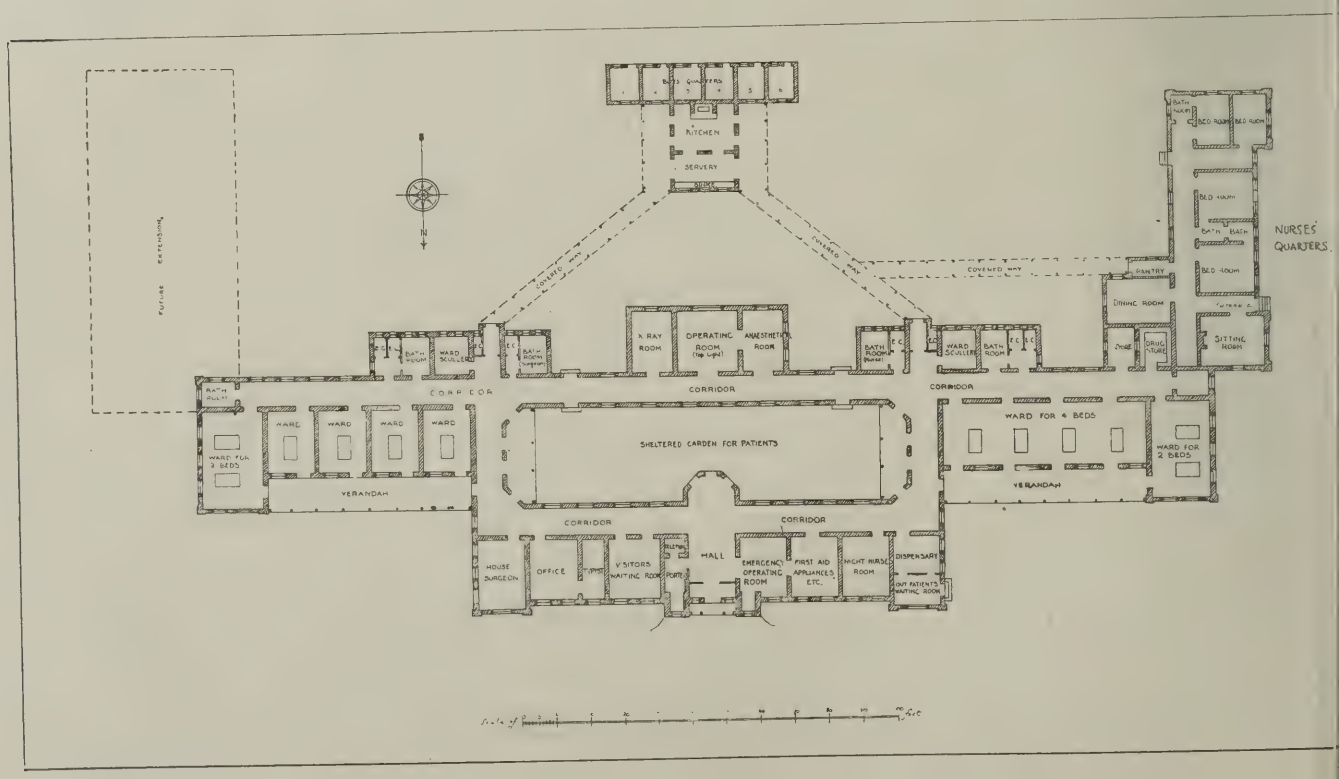
Heavy Claim for Repa and Decorations

Maple and Co. v. de Courville.

November 8. Official Referee's Cour Before Mr. G. A. Scott.

The hearing of this case occ several days. Messrs. Maple anc claimed £8,104 from M. and Mm Courville (Miss Shirley Kellog), for done and materials supplied in conn with the repair and decoration of a house at East Barnet, called S Grove, Cathill.

Mr. Vachell, K.C., appearing fo



THE EUROPEAN HOSPITAL, NAIROBI, BRITISH EAST AFRICA. EDWIN J. DOD, ARCHITECT.

Monumental Planning. 3.—Suggested Scheme of Development for Sydney University

Apropos of the London University project, the accompanying plan (kindly forwarded by Mr. Leslie Wilkinson, A.R.I.B.A.), showing a suggested scheme of university buildings at Sydney, becomes of considerable interest. The key to numbers on plan is as follows:—*1. Great Quadrangle and Arts Buildings (part existing). *2. Great Hall. *3. Fisher Library. 4. Modern Languages (remodelled). 5. Economics (remodelled). *6. Botany and Macleay Museum. *7. Medical School. 8. Anatomical Institute. 9. Examination Hall. 10. Chemistry, Organic and Inorganic, or Teachers' Training College. 11. Geology or Unallotted Building. 12. Physics. 13. Teachers' Training College (existing). 14. Refectory. *15. Manning House. *16. The Union. 17. Architecture or Arts. *18. Zoology. *19. Engineering. 20. Aviation. 21. Naval Architecture. 22. Agriculture. 23. Geology or Architecture. *24. Veterinary Science. 25, Gymnasium, Baths, and Armoury. 26. The Oval, Stands, Colonnades, etc. (exist in embryonic form). 27. Football and Hockey Grounds. 28. Tennis Courts. 29. Lodges. 30. Park Shelters. 31. Warden's House. 32. Garage Space. 33. Auditorium or Open Air Theatre. *34. School. *35. St. John's College and Additions. *36. Prince Alfred Hospital. *37. St. Andrew's College. 38. New Colleges. *39. Women's College and Additions. *40. St. Paul's College and Additions. *41. Wesley College. *42. Moore College.

* Indicates existing. The site is hilly, the oval and hockey ground being in a central valley. 1 is on the highest point.

NATIVE HOSPITAL, MOMBASA, B.E.A.: ADMINISTRATIVE BLOCK.
EDWIN J. DOD, ARCHITECT.

(See page 574.)

aintiffs, said that the house was a very d one, dating back probably to 1720, and had in it two great defects, one of which as that it had no damp-course, and the her that dry rot had set in in the base-ent. One of the causes of complaint by e defendants was based upon the dry t, and another was based upon the damp-ss of the walls. Mme. de Courville was lady of strong views, and she determined e plans as to how the house was to be corated. When the foreman pointed t to her that dry-rot had set in she de-ned to have the basement touched. She s told that the walls were terribly damp, d in spite of protests she insisted that e work should be done, and as a result was not satisfactory, and the dry-rot read. Mme. de Courville was at the use every day, and was pressing for the rk to be completed. M. de Courville s not there frequently, but there would no difficulty in proving that he as well his wife ordered the work, and that they re therefore jointly responsible. The intiffs frequently wrote to M. de Cour-e at the London Hippodrome.

n reply to the Referee counsel stated t the work was done under a series of mates, and there were extras ordered n time to time.

Ir. John William German, surveyor to ssrs. Maple in their decorative and ration department, was called, and l that the original estimates were added rom time to time by orders from Mme. Courville, and everything done had n done either under the original esti-es or by her orders. He saw her fre-ntly at the house during the progress he work, and he had also seen M. de rville there, and had discussed the k with him, especially in reference to a room on the ground floor which he ed to be turned into his study. The se being so old was in a very bad state epair, and did not appear to have been pied for ten or fifteen years, except by ps, who had left their marks all over place. To have put a damp-course in house would have cost about £1,000. he defence set up was that the charges excessive, and an allegation that the had not been properly carried out.

r. Scott awarded Messrs. Maple 66, reduced to £466 9s., by payments dy made.

The Threatened City Churches

Not the least of the many good deeds with which the Local Government, Records, and Museums Committee of the L.C.C. must in justice be credited is the pulbication of a very useful little monograph on the threatened City churches. Far be it from us to raise any question as to the Council's *locus standi* in the case. They have at least as much concern in the affair as the City Corporation; the fact being that although the jurisdiction is nominally that of the Bishop of London, Everyman is really responsible for the preservation of what is rightly construed as the common heritage of the nation. On this assumption the Council was fully justified in instructing its Clerk (Mr. James Bird) to prepare a report on the historical interest of the threatened churches, and the way in which the money for their erection had been provided, and the architect (Mr. G. Topham Forrest, F.R.I.B.A.), to report on the architectural and antiquarian features of the buildings. This they have done, each in his allotted sphere, in no perfunctory spirit, and between them they have produced a pamphlet of exceptional value and interest. By courtesy of the authors some typical illustrations are here shown.

In his historical summary Mr. Bird affirms that the proposal to demolish nineteen churches in the City of London is the most far-reaching of its kind ever put forward. We are further reminded that of the 107 parish churches existing in the City at the time of the Great Fire of 1666 eighty-six were burnt down, and of these thirty-five were never rebuilt, perhaps because, even at that date, the City was becoming more commercial than ecclesiastical. These thirty-five are enumerated in the report, as are the seventeen rebuilt churches, all designed by Wren, which were demolished before 1899. The

ST. BOTOLPH'S, ALDGATE.
(From the L.C.C. Monograph on the Threatened City Churches).

'seventies of last century were peculiarly fatal to these churches, no fewer than six being ruthlessly destroyed between 1871 and 1878, while the same period saw the destruction of three non-Wren churches. Nine City churches destroyed within seven years is a pretty black record, but it will be easily beaten if the nineteen churches disappear "in accordance with plan."

These nineteen churches are all tersely described both historically and architecturally, and two-and-twenty illustrations excite our hopes and fears for the fate of so much interest and beauty. There is also an excellent folding plan showing the boundary of the City, the site of old London Wall, the extent of the Great Fire, the sites of the churches burnt in the Great Fire and not rebuilt, sites of churches rebuilt and since demolished, churches proposed to be demolished, and existing churches to be retained. The pamphlet is certainly an excellent piece of work, and is a notable addition to the Council's fine series of publications on subjects connected with London history.

London County Council. Proposed Demolition of Nineteen City Churches. Report by the Clerk of the Council and the Architect of the Council. London: P. S. King & Son, Ltd., 2 & 4, Great Smith Street, Westminster, S.W.1. Price 3s. 6d.

Building Stones

In his final lecture at the Royal Academy of Arts, Dr. Laurie dealt with the subject of building stones, describing briefly the history of their formation, and illustrating their actual structure by means of a series of micro-lantern slides. He pointed out the importance of having a microscopic examination made, more especially of the cementing material in various sandstones, with a view to selecting suitable building stones, and suggested that a survey of the various sandstones to be found in different parts of London, accompanied by an examination of these stones under the microscope, would throw a great deal of light on the whole question of the most durable stone for the London climate. He then proceeded to discuss the question of stone preservatives, and while stating that he had no particular preservative to recommend at the present stage, he suggested that it was time that systematic observations were made on preservatives, and described the methods he was using to test whether a preservative was likely to be of any value.

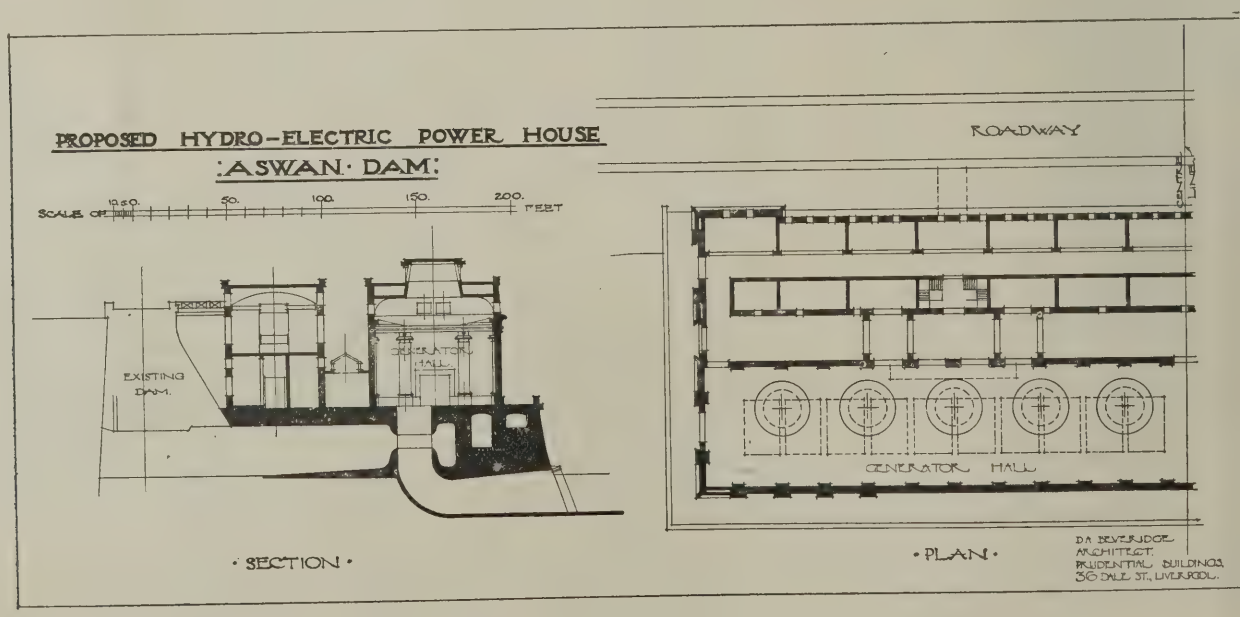
THE ALTARPIECE, ST. MAGNUS THE MARTYR.

(From the L.C.C. Monograph on the Threatened City Churches.)

Hydro-Electric Power-House, Aswan, Egypt

The dam which forms Aswan Reservoir is 2,200 yards long, and is quite straight. The reservoir extends 180 miles. As originally built in 1902, it stored 3,500 million cubic feet of water. Its heightening, completed in 1912, increased its capacity to 8,500 million cubic feet. When the water carries no silt, and when the flo excess of that needed for irrigati reservoir is filled and reserved until or April in a normal year; then the water is utilised to supplement th which is then at its lowest flow.

When the river brings enough needs the sluices are all open, th voir not holding any reserve. Th openings total 24,000 sq. ft., and charge varies from 15,000 cub.



Current Architecture. 49.—Proposed Hydro-Electric Power-House, Aswan, Egypt

D. A. Beveridge, Licentiate R.I.B.A., Architect

This power-house is designed to supply constant power throughout the year in connection with the Aswan Reservoir. The architectural treatment is eminently in keeping with the ancient buildings of adjacent Philæ, which include the Kiosk, the Great Temple of Isis, and five smaller temples. Some general notes and a plan are given on the opposite page.

500,000 cub. ft. per second

ll island of Philae, in the crowded many interesting ldest building dates from araoh's Bed, or the Kiosk, ple of Isis, and five smaller iis island are submerged, of the Kiosk, when the ill. These structures can when the river is in flood. d power house illustrated is supply constant power e year. The architectural dapted to local needs, and with the ancient architecnity.

ies Answered

cordially invite enquiries who require information on constructional, or legal

nquiries are in all cases the s; and while every care is the replies thoroughly reliors cannot hold themselves any inaccuracies that may ccur.

nts whose difficulties involve proceedings are strongly sult their solicitors before on any advice that may be

questions cannot be

understood that, as a rule, ind answer will be published ns. The name and address must always be given, not publication.

nts are requested to be as le, and to write on one side only.

"Fair Wear and Tear."

rites: "When a house is let for the tenant to do inside t to 'fair wear and tear the business of the landany washers on taps or ball- to be held as one of the aken by the tenant? Does and tear' clause nullify the y for repairs such as this?"

ne of the many disputable under the question of dila- with the most stringent tenant to execute internal form a definite opinion one clause in question. The oted opinion in practice is, a tenant is liable when he xecute all internal repairs and repair of washers on that the clause "fair wear not nullify his liability for

W. S. B.

ng Sand on Paint.

Can you give me particulars which sand is blown on to paint with the object of and preserving it?"

ow of such a process. Sand sometimes dusted or blown distemper while it is wet as or obtaining a rough effect oration similar to "Coatouc," where it is desired to in imitation of stonework.

W. S. B.

Housing and Town Planning

A two-days' regional, housing and town-planning conference for Greater London was held last Thursday and Friday week "to consider what steps can best be taken to secure more rapid progress with housing schemes."

First place in the agenda was given to "The choice of tenants, the fixing of rents, and the administration of financial regulations." Mr. Henry R. Aldridge, secretary of the National Housing and Town-Planning Council, said discussion of the class of tenant involved that of the rent that could be afforded. Their policy did not necessarily mean a very low rent. The builder's labourer, for instance, got only 3d. an hour less than the artisan, and labourers were now able to pay better rents than before the war. Directly they began to adopt the grading-up system and said they would let to a specially selected class of tenants who would vacate accommodation for the poorer people, they would run the danger of wrecking their housing policy, and gave ground to the men who had served their country for saying that they had broken faith.

It appeared, as stated in the memorandum before the conference, that 9s. 6d. per week would be the rent for a typical parlour house in the Midlands made up as follows: Net weekly rent before the war, 5s.; 40 per cent. increase under the Rent Act, 2s.; added amenity, bath, garden, etc., 2s. 6d.

Major Lovelock said that the rent fixed in his district for a parlour-three-bedroom house was 14s. 6d., which worked out at under 6s. for rates.

Colonel Norton, Housing Commissioner, London area, speaking for the Ministry of Health, said that rents were at present being considered, and, so far as he was concerned, were *sub judice*. In nine cases out of ten rents proposed were agreed to, and in the London region, he thought, in every case—not one being referred to a tribunal. He did not know how the 2s. 6d. for amenity was arrived at, but the time had come when the working man looked upon his bath, not as a luxury, but as a necessity. Forty years ago there was not a bath to be seen, even in large country houses.

Weekly Housing Report

Progress of Private Enterprise: 3,242 *Houses Completed.*

Up to November 12, 3,242 privately built houses had been completed, and the Government Grant of £260 to £230 had been paid to the builders. The total now paid amounts to £720,767. Up to November 5, Certificates "A" authorising private builders to proceed with houses eligible for the grant had been issued in respect of 23,917 houses. The total commitment represented by these houses now amounts to £5,781,425.

Forms of Special Construction.

Up to November 12, proposals had been made for the erection by local authorities and public utility societies of 36,625 houses according to the special methods of construction which have been approved by the Ministry. Contracts had been placed for 17,564 of these houses and were being arranged for a further 4,135. Building on 4,706 houses had been begun. In addition, at the same date, the builders of 3,618 houses being built under the terms of the Government Grant to private builders were also employing the specially approved methods.

Progress of Housing Schemes.

New housing schemes submitted to the Ministry during the week ended November 13 numbered 51, bringing the total number of schemes submitted to 11,293. The schemes approved now number 10,892 and comprise about 56,050 acres.

Sixty-four lay-out schemes were submitted and 52 were approved during the week, bringing the total number of lay outs submitted to 6,642 and number approved to 6,060.

House plans representing 1,003 houses were submitted and plans for 1,440 houses approved. The total number of houses represented in all plans now submitted is 272,722 and in the plans approved 257,739.

During the week tenders were submitted for 1,001 houses. Tenders for 1,380 were approved, bringing the total number of houses in tenders submitted to 170,560 and in tenders approved to 156,501. Contracts have been signed for 122,592 houses.

Architecture and Town Planning

Mr. W. S. Purchon, M.A., A.R.I.B.A., head of the Department of Architecture and Civic Design at the Technical College, Cardiff, lectured on the evening of November 10 to a large audience at the University of Birmingham on "Architecture and Town Planning," the lecture being one of a series on "Current Tendencies of Thought."

After drawing attention to some of the main lessons to be learned from the experience gained during the great periods of the development of European architecture, the lecturer dealt with the various schools of architectural thought which flourished in this country in the nineteenth century, attempting to show the contribution made towards future progress in each case. Mr. Purchon suggested that the present period is a formative one, and that success is most likely to follow a development based on traditional lines, with a steadily increasing importance attaching to the special requirements of the time and place in which the artist is working.

After dealing with the town planning of the past, he made reference to the unhappy result of the haphazard growth of towns and cities during the last century, and the neglect of the architect as a designer of small houses, emphasising the better results which are likely to accrue from the vigorous attempt now being made by properly trained men to produce more efficient types of individual houses, together with properly devised lay-out schemes.

Mention was made of modern methods of studying the past and present conditions of our towns and cities and of using these studies as bases for schemes of future development. The lecturer felt that these bigger issues should be a great source of inspiration to architects and other artists and bring them into closer touch with the community at large.

An attempt was also made to convince the audience that architecture is not only of material value to the people, but that it is a great living art comparable in its inspiring influence to the arts of literature and music.

Trade and Craft

Electric Fire Showcard.

We have received from the Carron Company a copy of their latest showcard—illustrating Carron electric fires. The card measures roughly 19 in. by 13 in., and, besides a small "half-tone" illustration of one of the handsome fittings, contains a very beautiful reproduction in colour of a picture representing a mother and her little girl gazing into the fire. The whole thing is very attractively produced and makes a remarkably effective showcard.

Hand Power Dinner Service Lifts.

Full-size models of the hand power dinner service lifts, manufactured by Messrs. John Bryden and Sons, which are eminently suitable for private houses, hotels, clubs, etc., are to be seen at 15, Glendower Place, South Kensington, London, S.W.; 16, Frederick Street, Edinburgh; 63, West Regent Street, Glasgow; and 32, Bell Street, Dundee. One of the most popular types, particularly noted for its quick action and silent and easy working, is made in five stock sizes, each with a total height of 18 ft., the loads carried varying from 40 lb. to 100 lb. In this type the gear has a large grooved hauling wheel, grooved lifting wheel, two guide sheaves for lifting rope, and a brake wheel with screw band or automatic brake, all fitted on bright turned steel shafting and mounted on dressed yellow deal bearers with suitable plummer blocks. The cage is made of best yellow deal, properly framed and jointed, fitted with shelf, and varnished inside and outside. The balance weight is made with cast-iron frame, and fitted with loose weights to suit weight of cage and load. There are three guides made of yellow deal properly jointed and bored ready for erection—two of these being grooved to receive balance weight. The hauling rope is of best Manila, and the lifting rope of best Russian hemp.

The Importance of Good Lighting.

"In a thousand ways our lives are affected by the quality of the artificial lighting to which we are accustomed. Physical comfort, mental alertness, æsthetic appreciation, and manual skill are all dependent in some degree upon lighting. Especially should the eyes of children be carefully protected from the evils of bad illumination. Young eyes are easily damaged by strain or dazzle, and visual defects are generally incurable."

These words are quoted from a little sermon on the "Importance of Good Lighting," which forms the preface to a folder on semi-indirect lighting just issued by The British Thomson-Houston Co., Ltd. This folder (No. L—173) contains illustrations and full particulars of ten of the most popular patterns of B.T.H. semi-indirect fittings. The majority of these fittings are of an ornamental character, and are suitable for the lighting of private houses, offices, shops, etc., while two, of definitely utilitarian design, are intended for factories, workshops, etc.

The ornamental fittings are shown with Druid, veluria, or opal glassware, but, with two exceptions, they can be supplied with alabaster bowls, the prices for this alternative equipment being included. The designs are extremely good in conception, having the elegance and simple charm that constitute the mean between over-elaboration and cold austerity.

The folder is printed in three colours and is a most artistic production. Contractors or dealers desiring copies (overprinted with name and address) should write to The British Thomson-Houston Co., Ltd., 77, Upper Thames Street, E.C.4, giving all necessary particulars. Applications should specify folder No. L—173.

Education in Industry

The need for the development of education in industry has been recognised by the Industrial League and Council for several years past, and the latest lecture on this subject has been delivered by Mr. W. J. Deeley, B.A., before the members of the Yorkshire (Leeds) Centre at their week-end conference held at the Guest House, Cober Hill, Cloughton, near Scarborough. Mr. Deeley said that, in a sense, education and industry should be regarded as the same thing. Instead of retiring to enjoy oneself one should think of bringing enjoyment into industry. If we wished to give up industry then it was a serious criticism of industry. But they need to be fitted for work to have joy and pleasure in it. The foreman should regard himself as a teacher, and records should be kept by the foreman, and points concerning each worker should be jotted down, so that when opportunity of promotion came no deserving worker should be overlooked. The lecture was followed by a very interesting discussion.

It may be here interpolated that the "Welfare" movement, so successfully introduced into industry by certain big employers of labour in the building trade, is intimately bound up with the problem of industrial education.

This is the second week-end conference of employers and employed that the Leeds branch of the Industrial League and Council has organised and held at Cloughton, and it is interesting to note that very constructive industrial subjects were debated. In addition to the lecture given by Mr. Deeley on Sunday morning the session on Saturday afternoon was occupied by a consideration of "The Work of the Building Trades' Parliament," on which an address was given by Mr. Malcolm Sparkes (secretary, London Guild of Builders). The conference was attended by large employers and prominent trade unionists and workmen.

Land for Housing at Portsmouth

Mr. Howard Martin, official arbitrator under the Acquisition of Land (Assessment of Compensation) Act, 1919, has issued his award in a claim by Mr. A. H. Thistlethwayte, tenant for life of the Portsdown Hill Estate, near Portsmouth, touching the compulsory acquisition of 529 acres of his land for housing purposes by the Mayor, Aldermen, and Burgesses of the County Borough of Portsmouth. The land consists of South, West, and East Wymering Farms, part of Paulsgrove Farm, and certain small holdings.

At the hearing of the claim, which recently took place at the Surveyors' Institution, Westminster, Mr. William Allen was counsel for the claimant, while Mr. W. J. Jeeves, K.C., appeared for the acquiring authority.

Mr. Allen stated that early in 1919 n tiations took place between the claim advisers and the Corporation with re to this particular land. On March contract of sale was entered into bet the parties, and all matters between t were agreed, including the price to be for the land, subject to the approval o Ministry of Health. The price ag upon was £52,000, with the land freed encumbrances excepting leases and ri The Ministry of Health, however, dec to consent to the purchase at that pri

Mr. Ernest Hall, senior partne Messrs. Hall, Pain, and Goldsmith, veyors and auctioneers, gave evidenc behalf of the claimant, and submitt valuation of £52,772. On behalf o County Borough of Portsmouth, M Hayley Mason, superintending valu the Inland Revenue, submitted a valu of £29,350.

The Official Arbitrator awards tha Acquiring Authority is to pay the clai the sum of £38,508, excluding an e sure which was included in error i notice to treat, and including a rig user of a bridge over the London South-Western Railway on the we boundary of the estate. The Arbi orders the Acquiring Authority to pa claimant's costs.

Northern Polytechni Institute

The following lectures on science a to building problems are to be delive the department of Architecture, Surv and Building of the Northern Polyt Institute:

November 25.—Lecture 2. Air.—F Humidity. Heat. "Burnt Air." E sion of Air. Air currents. V Pressure due to depth.

December 16.—Lecture 3. Hea Expansion.—Demonstration. Effe metals. Similarity of co-efficients.

January 13.—Lecture 4. Hea Change of Character.—Geology. Heat and Water. Granite. Slates. Concrete, Stone, and Clay.

February 3.—Lecture 5. Lim Cements. Mortars.—Chemical ences. Chemical Composition. P Properties. Chemical Analysis befo after setting. Expansion. Meth Measurement.

February 24.—Lecture 6. Lim Cements. Plasters.—Chemical Co tion. Setting Properties. Effect o ing. Gypsum.

March 17.—Lecture 7. Iron and —Chemical Composition. Physic perties. Rust. Tests.

April 7.—Lecture 8. Copper, Lea Zinc.—Physical Properties. Eff Water. Acids. Heat.

April 28.—Lecture 9. Paint Varnishes.—Chemical Composition. terants. Effect of Adulterants.

A Correction

In the first part of the article London Society's Development Map appeared in our issue for Novem (page 518) the tenth line from bot column 3, reading "embankment north side of the Thames," should b side of the Thames.

From an original by Francis Dodd.

Craftsmanship a National Stimulus

Public appreciation has made English craftsmanship a commercial success; but it had to be developed before public appreciation came.

Fine exteriors and interiors, beautiful fittings in woodwork and metal, carefully proportioned details and enrichments —these essentials of craftsmanship were evolved by the master craftsmen, architects, and builders, and the results created an appeal and stimulated appreciation and demand.

The creative effort in craftsmanship is still maintained, and is the key-note in many English firms.

Governed by tradition and taste, craftsmanship will continue to create a demand for fine work.

While the stimulus remains, work executed by craftsmen-firms will never be exclusively ruled by money-making; and the standards of design and manufacture will continue to rise.

The Reputation and Experience of Firms who for over 50 years have assisted in the growth of good building and fine craftsmanship are valuable guarantees to Architects and Building Owners.

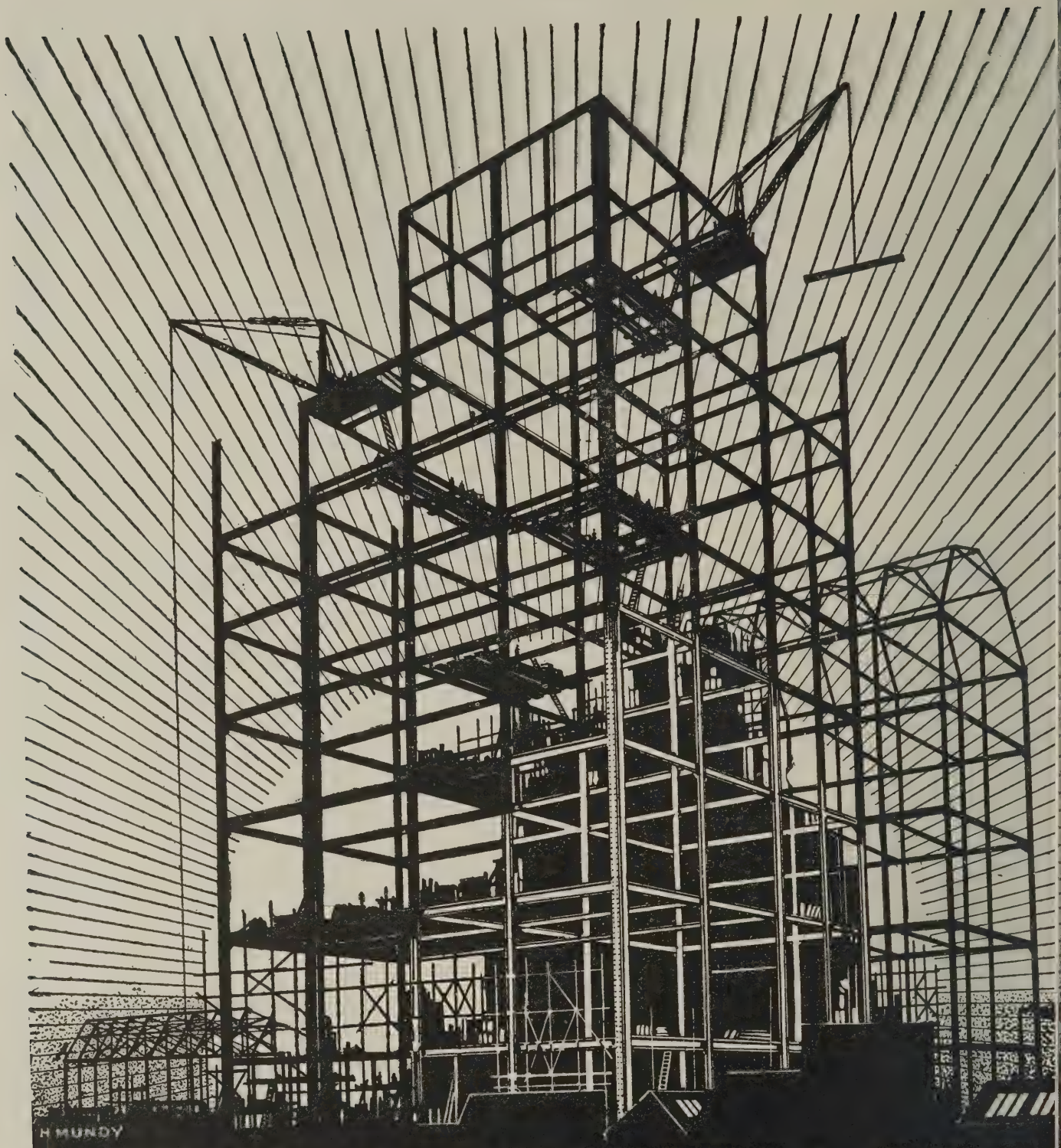
HIGGS & HILL, LTD.

BUILDING CONTRACTORS

CROWN WORKS, SOUTH LAMBETH ROAD

LONDON, S.W.8

Telephone No.: Brixton 2340



REDPATH BROWN & Co. L

CONSTRUCTIONAL ENGINEER

WORKS AND STOCKYARDS

LONDON
Riverside Works.
East Greenwich S.E.

MANCHESTER
Trafford Park.

BIRMINGHAM
Office: 47, Temple Row.

EDINBURGH
St. Andrew Steel Works.

NEWCASTLE-ON-TYNE
Milburn House.

GLASGOW
Pinkston.
Office: 19 Waterlo

London City Office:- 3, LAURENCE POUNTNEY HILL E.C.4

The Week's News

(Continued from page 564.)

ining School Extension, Adel, Leeds.
Considerable extensions to the Adel ining School for Boys are in contem- tion. The total cost is estimated at roximately £20,000.

Cenotaph for Liverpool?
he Lord Mayor of Liverpool has issued roposal that Liverpool should erect a otaph in the city in memory of its oo fallen soldiers and sailors.

Sale of Clifford's Inn.
he date of the auction of Clifford's Hall, and over half an acre in Fleet et, is fixed for February 2 by Messrs. in Fox, Burnett, and Baddeley.

Work on £150,000 Road.
anchester City Council have received ission to proceed with No. 12 road in town-planning scheme. The road from Barlow Moor to Princess Road, is to cost £150,000.

Bootle Housing.
otle T.C. have resolved to apply for ion to borrow (under the Housing 1890-1919) £392,750 for the erection vellings, £6,500 for sewerage, and oo for street works.

Jarrow Housing.
ssrs. D. Glen and S. Craig and Sons ne contractors for the erection of 148 s. Seventy-six houses, to cost 78, have been allocated to Messrs. and Sons, and seventy-two houses, t £73,494, to Mr. D. Glen.

Storage Reservoir, Hucknall.
cknall Torkard U.D.C. have decided sider the building of a new storage oir for their waterworks. They have cted W. H. Radford and Son, of Not- m, to prepare plans and estimates junction with the council's surveyor, aven.

nmittee to Probe Building Costs.
ng last week's meeting at Montagu of the Industrial Council for the g Trade it was announced that Dr. n had intimated his intention to set ommittee to consider the question of sent high cost of building, and in- the names of gentlemen to serve

ew Central Hall, Scarboro'.
w Central Hall is to be built on the the Queen Street Wesleyan Chapel, rough, which was destroyed by fire . The building is to cost £27,000, ew organ £3,000. The foundation of the new building are to be laid tsuntide next year, and it is hoped plete it by Easter, 1922.

Graving Dock, Falmouth.
progress is being made with the ction of the new graving dock at th. The dock, which is to be in length, was commenced by the ty, but has since been taken over te interests, and it is expected that k will be completed some time to- ne middle of next year.

Direct Labour in Glasgow.
ow Corporation's Special Com- on Housing and General Town ment recommend approval of a l agreement under which, subject anction of the Scottish Board of the housing scheme at Drumoyne, g of 264 houses, will be under- taken and carried out by the Glasgow and West of Scotland Building Guild. Tenders amounting to over £44,800 have been recommended for acceptance in connection with the Pollokshaws housing scheme.

New Houses for London.
Two hundred and fifteen houses provided in connection with the London County Council's housing schemes have been completed, and the number of men employed on the work has increased during the month from 1,417 to 2,475.

Tribunal of Appeal.
Mr. Dendy Watney, of the firm of Daniel Watney and Sons, has been appointed by the Council of the Surveyors' Institution a member of the Tribunal of Appeal under the powers conferred upon them by the London Building Act, 1894.

Rheims Cathrdral.
It is reported that to restore Rheims Cathedral will cost 125,000,000f. This is the cost of the damage done by German bombs and shells put by Cardinal Luçon. The French Government promised a first advance of 4,000,000f., and has given a fourth of this sum, which has been allocated to works of preservation.

Ex-Service Men and Building.
Mr. George Hicks, president of the National Federation of Building Trade Operatives, has stated that no further steps have been taken in regard to the Government's proposals for dilution by the admission into the industry of 50,000 unemployed ex-Service men. "We are waiting now," said Mr. Hicks to a Press representative, "for the Government to make their overtures and develop their plans, more particularly in regard to unemployment guarantee, and we will meet them to discuss the scheme as soon as they are ready."

Southwark Bridge.
Southwark Bridge will be completed, it is expected, towards the end of next month. Replacing the old bridge, which was built in the early part of the last century, it has five arches of cast-iron, with stone piers, instead of three, and its great advantage is the reduction of the steep gradient both from Thames Street on the north side of the river and from Southwark Street on the south. The contract for the new bridge was given to Sir William Arrol and Co. in 1912, the estimate of cost at that time being £261,000. Sir Ernest George, A.R.A., is the architect.

Glasgow Housing.
One of the largest municipal housing schemes in Scotland is the Mosspark project, the contract for which has been given to Messrs. J. A. Mactaggart and Co., Ltd., building contractors, Glasgow. Their estimate is £1,818,978. The scheme provides for the erection of 1,502 houses, 504 being of the "flat" type, and about 1,000 cottages of various sizes. The density of the houses works out at about nine to the acre. Mr. John Bryce, M.Inst.C.E., is the chief engineer of the scheme, and Mr. Robert W. Horn, A.R.I.B.A., chief architect under the supervision of Mr. Peter Fyfe, the Corporation Director of Housing.

St. Paul's Bridge.
Considerable interest is being evinced in the reported decision of the City authorities to proceed with the building of St. Paul's Bridge, but it appears that, even should a resolution to build the bridge be arrived at, a commencement could not be made for at least six months. Evidence of the Corporation's intention to undertake the building of the bridge is forthcoming in the fact that measures are being taken in Parliament to secure an extension of the time (ten years) authorised by the Act under which the bridge is to be constructed. The period expires in August next.

Rebuilding Regent Street.
The metamorphosis, architecturally, of Regent Street will be greatly advanced during next year. Practically all the leases have fallen in, or will fall in, by the end of the year, and the work of reconstruction is well on the way. The scheme of rebuilding is by blocks extending generally from one street to another. One of the principal buildings which will be demolished early in the new year will be the famous wine house of Hedges and Butler. On this site an imposing £70,000 structure will be erected. Within the next five years, ten to fifteen million pounds' worth of new property will be raised in Regent Street.

The Bush Building.
With regard to the controversy aroused over the proposed building of the Bush Company on the Aldwych site, Mr. R. D. Peck, the company's manager, observes that the statements describing the proposed structure as a "skyscraper and eyesore," are prejudicial, and based on insufficient information. "Except for a slight lift at one point, in order to give architectural distinction to the Strand façade," he says, "the building conforms to the same regulations as Australia House, Marconi House, and other modern buildings in the district. Even for this slight local increase in height a special application had to be made to the London County Council. We are informed that, far from there being any objection from other people building in the neighbourhood, any concession, such as this company has obtained, is looked on with favour as being likely to tend to alleviate the rather rigid regulations as to building in London."

Shortage of Building Material.
A meeting of representatives of the larger Scottish local authorities has been held at Edinburgh to consider the shortage of building material for housing schemes. Representatives were present from Edinburgh, Glasgow, Aberdeen, Dundee, Perth, Paisley, Greenock, Dunfermline, and the Middle Ward of Lanarkshire. The meeting resolved that there had been a wholly inadequate supply of the requisite building materials to permit of house building proceeding expeditiously, and that the present arrangements had entirely failed; that the State should in consequence be required to make such arrangements as would secure (1) that house building would have prior claim upon the building material of the country, and (2) that adequate methods of control, including prices and development of manufactures, and the distribution and transport of these, be forthwith introduced to secure the requisite additional supplies. It was resolved that the time limit of three years within which housing schemes must be completed to earn the Government subsidy was quite inadequate, and that a

request be made to the Government to extend the time limit to five years, and to refer to the Tribunal appointed under the Regulations all questions with respect to a further extension.

Mr. George H. Wenyon, F.S.Arc.

Mr. George H. Wenyon, F.S.Arc., of the firm of Poynter and Wenyon, has just left for India, on a visit of some months' duration. During this time he will act as State architect to H.H. the Maharaja of Alwar. He expects to be back in this country early in May. In the meantime any communication intended for him can be addressed care of Sir Ambrose Poynter, Bart., F.R.I.B.A., 8, Grafton Street, Bond Street, W.1.

Housing at Bollington near Macclesfield.

The Ministry of Health have sanctioned the erection of fifty Class "B" and sixteen Class "A" houses on the Grimshaw Lane site, Bollington, for the U.D.C. The lowest tender was that of Messrs. J. Byrom, Ltd., Woolfold, Bury, Lancs, amounting to £1,070 per house of the "B" type, the "A" type being erected on the basis of the same schedule of prices. The street and sewer contract was placed with the same firm in July last at an average cost of £47 per house. The architect for the scheme is Mr. Arthur Clayton, M.S.A., M.J.I.E., of Duchy Chambers, Clarence Street, Manchester, and 9a, Market Place, Macclesfield.

Spanish Art at South Kensington.

A temporary exhibition of Spanish art has been arranged on the floor of the East Hall (immediately to the right of the main entrance) at the Victoria and Albert Museum. The museum is rich in fine examples of Spanish industrial art, many of them purchased by the late Sir Charles Robinson as far back as the 'sixties and 'seventies of the last century, and the representative collection which has now been put together includes architectural details and sculpture, pottery and glass, books and illuminated manuscripts, goldsmiths' work, jewellery and iron, the great *retablo* from Valencia, textiles, embroideries, and furniture, illustrating the art of Spain both under the Moorish domination and in later times. The exhibition will remain on view while the loan exhibition of Spanish paintings is open at Burlington House.

The Government and Unemployment.

Mr. Lloyd George has announced in the House of Commons the Government's plans for dealing with unemployment. The principal scheme is a large programme of road-making in London and the provinces. The Premier stated that the Cabinet had definitely come to the conclusion that a great opportunity now exists to employ many thousands of fit ex-Service men in the building trade, and that a series of proposals have been sent to the trade unions. An appeal has also been made to the trade unions to suspend their rules with regard to the admission of unskilled men to the foundry trades, iron puddling, and wagon building, in which there is a serious shortage of labour. The various schemes will, of course, be affected by the losses incurred through the coal strike, but the Government will carry them out to the best of their ability, in spite of the set-back thus incurred by the country. The necessity for finding work for ex-Service men, deplorable as in some respects it certainly is, may eventually prove to be a blessing in disguise.

Competition News

Royal Engineers' Memorial, Chatham.

The Royal Engineers have decided that an open competition shall be held for a suitable memorial at Chatham to commemorate those who have fallen in the war, 1914-1918. The following are the conditions:

The site will be the open space between the Crimean Memorial Archway at the entrance to the Brompton Barracks Square and the South African Memorial Archway at the entrance to the R.E. Institute. The lay-out of the proposed memorial must leave the existing roadway clear and provide free access from it to the Barrack Square through the Crimean Memorial Arch.

The memorial is to commemorate the Royal Engineers of all ranks, approximately 18,000 in number, who have fallen in the war, and a portion of the memorial should be specially commemorative of the late Lord Kitchener. The design should include a dedicatory inscription, but no provision is to be made for the names of the fallen, which are recorded elsewhere.

It is desired that the general scheme of the memorial should, if possible, link together the existing Crimean and South African Memorials, and the design may therefore include the laying-out with turf, or otherwise, of the space between them (excluding the roadway) and its enclosure wholly or partially by railings on dwarf walls. In the event of the design including such a feature as an enclosed space, the area defined by the chain dotted lines on the plan must not be exceeded. Portland stone is to be used. The total cost of the memorial, including any enclosures, all ground work, turfing, curbs, roadways, etc., and the fees and expenses of the selected competitor, must not exceed £9,000.

The sculptor, if any, to be employed will be selected by the committee on the advice of the assessor, after consultation with the successful competitor. Competitors should obtain all inclusive estimates from sculptors.

The premiums to be awarded are:

For the competitor placed first, £200; for the competitor placed second, £125; for the competitor placed third, £75. In the event of the design of the successful competitor being carried out the premium to be merged in his commission of 6 per cent. for the whole of the work.

The following drawings and particulars are to be supplied by the competitors:

(a) Plan, one section and two elevations to 1-16 in. scale of the whole of the scheme, showing the two existing archways in position.

The archways to be shown in elevations in silhouette to scale.

(b) Plan, section, and two elevations of the memorial, and an elevation of the enclosure, if any, at the ends, to $\frac{1}{8}$ in. scale.

(c) $\frac{1}{2}$ in. details of the memorial.

(d) A perspective view of the memorial, the size and method to be at the option of the designer.

(e) A report containing a concise description and explanation of the scheme.

(f) A detailed estimate giving the amounts allotted to the architecture and sculpture respectively.

All drawings and reports must be delivered at the office of the Secretary, R.E. Memorial Sub-Committee, R.E. Instit Chatham, on March 15, 16, and 17, 1

The assessor for the competition wi Sir Reginald Blomfield, R.A.

Any questions must be addressed t Secretary, R.E. Memorial Sub-Commi R.E. Institute, Chatham.

Competitions Open

Lockerbie.

War memorial; cost, £2,000. A Secretary, R.I.B.A. Closing January 31.

Llandudno.

War memorial to cost about £1 Apply Mr. A. Conolly, Town Hall. Cl date December 1. (Banned by R.I. and S.A.)

Gateshead.

Cenotaph, in grey granite, to cost £4,500. Apply Mr. George Gill, Street, Gateshead. Closing December 1. (Banned by R.I.B.A S.A.)

Portsmouth War Memorial.

Mr. Paul Waterhouse, the as nominated by the R.I.B.A. in conn with the above competition, has re that the site plan is now ready, to with the necessary details, enabling tects to prepare designs. The cost be £10,000. Applications must b dressed to the Mayor, Portsmouth Hall, by December 6.

East Ham.

The East Ham Hospital Committ vite competitive designs for the erec a general hospital in Shrewsbury East Ham, at a cost of £40,000. As Mr. George Hubbard, F.S.A., F.R. The author of the design placed fir be appointed architect, and premiu £75 and £50 will be awarded to the a of designs placed second and third. Mr. Ernest Richardson, of "Montfi 296, Katherine Road, Forest Gat Closing date, February 25.

Liége.

Monument to commemorate the of Belgium against the German i One million francs has been sub for the project. Apply M. Léon Ma Bureau des Beaux Arts, Hotel d Liége, Belgium.

Licensed House in a Large To

With a view to obtaining suggest improving the existing type of house, the Court of the Worshipfu pany of Brewers offers premiums £150, and £50 for the best desig licensed house on a given site. titors must be Members or Lic R.I.B.A. The President has cons act as assessor. Apply Secretary, I Deposit, two guineas, which will turned to all competitors submittin fide designs. Closing date, Janua

Coming Events

WEDNESDAY, NOVEMBER 2

Royal Society of Arts.—"Colou and Colour Blindness." By F. ridge-Green, C.B.E., M.D., F.R.C

THURSDAY, NOVEMBER 25

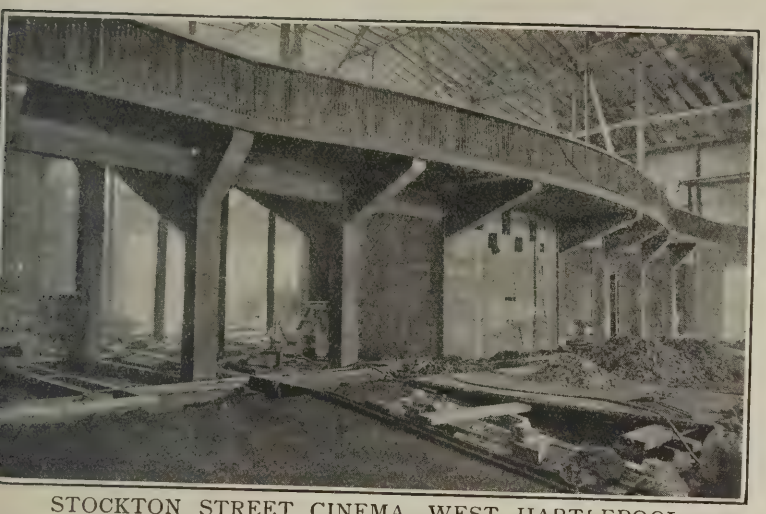
Builders' Benevolent Insti Annual dinner. Hotel Victor p.m.

Concrete Institute.—President dress by E. Fiander Etchells. 7.

MONDAY, NOVEMBER 29.

London University.—"French ture of the Renaissance," by W. I M.A., F.R.I.B.A., F.S.A. 5.30 p

EXPANDED METAL



STOCKTON STREET CINEMA, WEST HARTLEPOOL.
Reinforced Concrete Throughout.
Architect. Mr. J. Forbes, L.R.I.B.A. Middlesbrough.

THE

EXPANDED METAL COMPANY, LIMITED

Head Office:

YORK MANSION, Petty France,
WESTMINSTER, London, S.W.1

(To which address enquiries should be sent.)

Works:

STRANTON WORKS,
WEST HARTLEPOOL.

(To which address orders should be sent.)

SPECIALITIES.

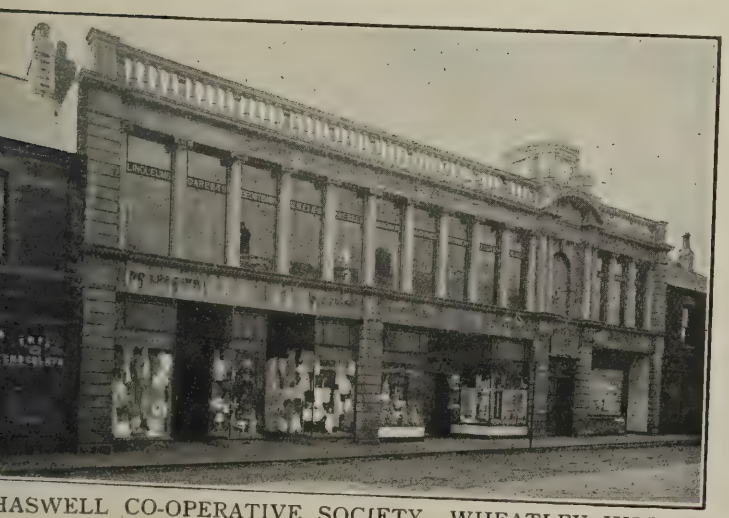
Expanded Steel Sheet Reinforcement for Concrete.

"Exmet" Reinforcement for Brickwork.

Expanded Metal Lathings for Plasterwork.

Steel Wall-ties with split ends.

POSTAL & TELEGRAPH DEPT., BORDESLEY GREEN,
for H.M. Office of Works.
Saw Tooth Roofing of Pre-Cast Expanded-Steel Concrete Slabs.



HASWELL CO-OPERATIVE SOCIETY, WHEATLEY HILL, CO. DURHAM.
Reinforced Concrete Throughout; Front faced with Artificial Stone.
Architect Mr. J. Wilson Hays, Wingate, Durham.

Patentees & Manufacturers of EXPANDED METAL.

Engineers for
FIRE-RESISTING CONSTRUCTION,
STRUCTURAL STEELWORK,
And all forms of
REINFORCED CONCRETE WORK.

Write for
DESIGNS, ESTIMATES,
SAMPLES, PRICES, ETC.

CONTENTS.

Edited by PROFESSOR A. E. RICHARDSON, F.R.I.B.A.

Notes and Comments: The Future of Architecture, 589. St. Paul's Bridge; Parliament and Luxuriant Wages; Obstructive Statuary; The Advertising Exhibition ... 590

Marlborough College Memorial Competition 591

Architectural Causerie: About the Albert Hall. By Aero 593

Architecture in the New World. By Major H. Barnes, M.P., F.R.I.B.A. 594

New Methods of Construction for Housing 597

Housing Progress 598

Birmingham Architectural Association 598

The Late Lieut. Alick G. Horsnell's Drawings 601

Society of Architects 601

Mr. C. S. Errington on Current Topics 602

Law Report 602

Book Notices: Objective History; The English Interior; Storage Batteries for Electrical Energy; Amateur American Architects ... 607—611

Inquiries Answered 611

Builders' Benevolent Institution Dinner 611

The Concrete Institute: Presidential Address. By E. Fiander Etchells, A.M.Inst.C.E. 612

The Week's News 613

Obituary 613

Correspondence 614

Messrs. Higgs and Hill's Staff Dinner 614

Edinburgh Architectural Association 614

Trade and Craft 614

Coming Events 614

Competition Awards 614

Current Prices of Materials xix

Complete List of Contracts Open... xxii

ILLUSTRATIONS:

Sydney Smirke 587

War Memorials: 9—Competition for Proposed Speech-Room, Marlborough College: Details of First Premiated Design. W. G. Newton, M.A., A.R.I.B.A., Architect, 588; Plans and Sections of Lay Out, 591; Ground Floor and Gallery Plans 592

The Royal Albert Hall: Main Entrance 593

Original Design for the Royal Albert Hall 593

Major H. Barnes, M.P., F.R.I.B.A. 594

War Memorials: 10.—Competition for Proposed Speech-Room, Marlborough College; First Premiated Design. W. G. Newton, M.A., A.R.I.B.A., Architect ... ...

Current Architecture. 50.—New Offices for the Leicestershire County Council, Grey Friars, Leicester. The Late S. Perkins Pick, F.R.I.B.A., and Wm. Keay, Joint Architects ... ...

"Rouen." From a Charcoal Drawing by the Late Alick G. Horsnell ... ...

Details of American Colonial Architecture. 4.—Wellington House, near Waltham Mass., U.S.A. 60

An Eighteenth-Century Town House ... ...

Design for Panel over the Door of the Royal Academy (Somerset House) ... .

Late Eighteenth-Century Doorway from a House in London

Architecture of the Late Eighteenth Century. 8.—The Library, Sledmere House, Yorkshire ... .

The Late Sir William Mather.

DAWNAY DEFINITIONS—6.

PREPAREDNESS.

PREPAREDNESS is being ready for any emergency. It is a sound principle in business. Our purpose here is to tell you we are prepared for your enquiries for constructional material, service and designs. Certainty of satisfaction and promptness of delivery stand ready here for your command without fear of disillusionment.

STOCKS OF British Standard Sections in Joists, Channels, Angles, Tees, Flats, etc.

ARCHIBALD D. DAWNAY & SO Limi

Telephones: Battersea, 1094 (3 lines). Steelworks Road, Battersea, S.W.11 Telegram Dawnay, Ba London.

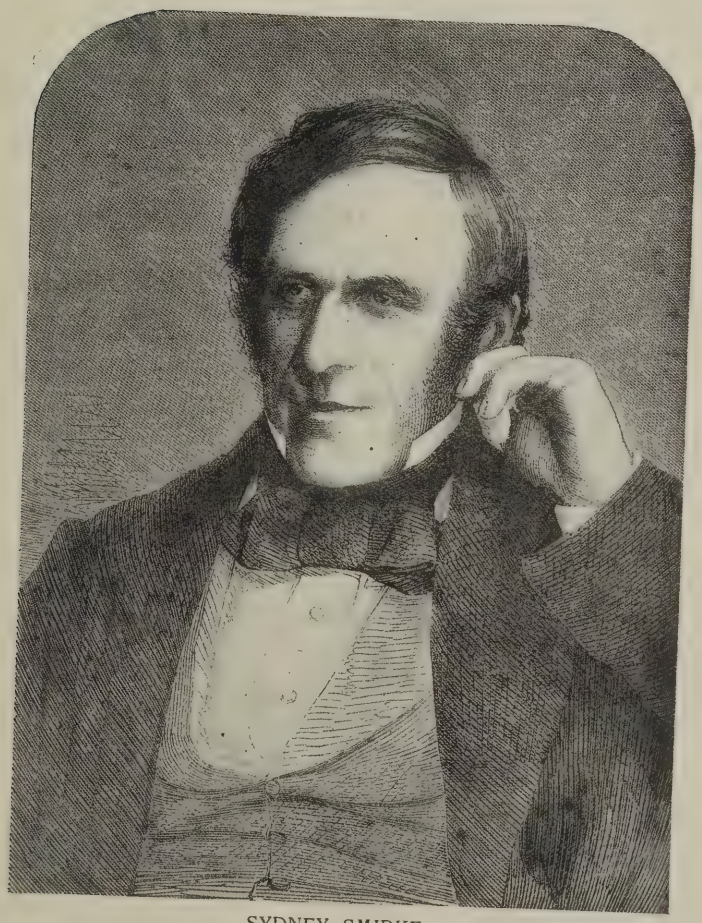
Telephone: Cardiff, 2557. And at East Moors, Cardiff. Telegram Dawnay, C

ednesday, December 1, 1920

Volume LII. No. 1352

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



SYDNEY SMIRKE.

Sydney Smirke (1798-1877) was the fifth son of Robert Smirke, the painter, and brother of Sir Robert Smirke (the architect of the British Museum) with whom he served his architectural apprenticeship. One of the most prolific architects of his time, he is best remembered by his fine range of galleries for the Royal Academy at Burlington House. With George Basevi he designed the Conservative Club, in St. James's Street, and was afterwards responsible for the rebuilding of the Carlton Club, in Pall Mall. He founded the Architects' Benevolent Society in 1852.

27-29 Tothill Street, Westminster, S.W.1.

War Memorials. 9.—Competition for Proposed Speech-room, Marlborou College: Details of First Premiated Design

W. G. Newton, M.A., A.R.I.B.A., Architect

The competition for a Memorial Hall at Marlborough College produced some extremely interesting designs, which are now on view the Galleries of the R.I.B.A. in Conduit Street. The above detail drawing shows the use of a great internal colonnade to sup the superstructure. A point of practical interest is the method of ventilation—contrived through grilles in the entablature conjunction with adjustable glass louvres. Some critical notes appear elsewhere in this issue.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

ednesday, December 1, 1920

Volume LII. No. 1352

Notes and Comments

The Future of Architecture

WITH respect to the future of architecture, Major Barnes is apparently a pessimo-optimist. An optimist with cautious reservations, he thinks that there is a good time ıing, but he is not very enthusiastic about it. At the ner of the Architectural Association last week, he ke as one who knows that there is always a fly in the tment. He actually had the cold-drawn courage to mate the effect that women architects will have on future of architecture. From their incursion we are to expect any great development on the æsthetic or ginative side. "Great architecture," he said, with e truth than gallantry, but yet with fine daring, me out of heat and passion, and women, being the er and less emotional sex, were not likely materially lter the conditions of architecture." The women not thank him over-cordially for this revelation, nor his attempt to atone for it appease "the less tional sex," and we would fain hope, for his sake, a reporter, or a sub-editor, has substituted other seology than that which he actually used in this pas-: "But the cold and calculating way in which they nen] looked at life was likely to have its effect on status of the profession; he anticipated that its ness methods would be greatly improved." We ot believe that this desolating expression, "cold and lating," can have escaped so adroit a speaker, unless ntention was jocular, as we are inclined to suppose it may have been, seeing that the Major's speech was ently punctuated with laughter. In an after-dinner h, manner is often of more importance than matter. rning to more serious subjects, we do not think that r Barnes was altogether justified in his forecast that cial architecture was about to see a wide develop-" It is true that, as he implied, local authorities howing a tendency to become bureaucratic, that tals seem likely to become the care of the State, hat it is safe to presume that wherever the architect ıds on local or national expenditure, sooner or later l architecture is going to control it. Nevertheless, eadily rising revolt against bureaucracy may give a trically opposite direction to the trend of events. tals should certainly receive State aid, but need not ore come entirely under State control. To us the bureaucracy seems but a temporary effect of the Soon there will be a more or less violent revulsion t. At all events, the prospect of architects being l into Government or municipal corrals is not at all ing for art, on which bureaucracy of the British is the most deadly of all sterilising influences. The 's further prognostication that there is to be "a ıdous development of trade associations or trusts, rk for which would sooner or later get into the of a few men, who would only approach archi-f considerable eminence," further emphasises the ı of the great American maxim, "Never prophesy unless you know." Certainly the corporation or trust architect, who, with the aid of a standing army of assistants, does every jot and tittle of the building work that his employers require, is no new portent, but he is seldom chosen for his "considerable eminence," and is but little likely to attain to that blessed state when once he has been chained to the wheel, and has become a slave to "the daily round, the common task." If trusts and corporations are likely to increase and multiply, and with them official architects, this development would tend to stereotype style rather than to stimulate the production of designs sufficiently varied in character to defeat dull monotony. To establish a sort of architectural factory, in which a large number of subordinate architects work to the orders of a chief whose word is law, is not an ideal way of promoting the artistic side of architecture. Of course, Major Barnes does not say it is; to forecast events is not necessarily to favour them. It is only the over-sanguine who prophesy what they want to occur, rather than what may be expected to happen.

After the manner of a pessimo-optimist, Major Barnes seems to anticipate the worst and to be determined to make the best of it. Recollecting, no doubt, the delicious old comedy of "The Four P's," collated originally under that title, he described the patrons, past, present, and prospective, of architecture. Its first great patron was the Priest. Then came the Prince and the Plutocrat. "The Fourth P. would be the People," and he did not feel at all discouraged by the prospect. If only one were not a ratepayer as well as an architect, there would seem to be no ground for discouragement in the fact that "Labour Councils were turning their thoughts to half-million town-halls." He might have mentioned quite relevantly that the Labour movement seems to have inherited from the trades guilds a taste for grandiosity in building. The projected Central Labour Hall in London is to cost twice as much as the hypothetical half-million town-hall; and various trades-union and similar buildings of fairly recent date—for example, the Hearts of Oak Society's premises in the Euston Road—show that the working classes are not niggardly in building enterprise: and a proletariat that has large ideas on building is not past redemption. As Major Barnes observed, there is wanted, for great building, some great unifying idea, which should be reflected in every part of the world, "and thus present architects with great opportunities." For the source of this influence he looks to "a cosmopolitan city where all nations should meet," such as that planned by Messrs. Andersen and Hébrard in their scheme for an International World Centre—"a dream, but yet not all a dream." Visionaries have always this consolation—that the world is invariably the better for their beautiful dreams, even when these materialise differently or not at all. Major Barnes is to be congratulated on his breezy utterance. Seldom indeed does an after-dinner speech yield so much matter for thought and discussion.

St. Paul's Bridge

About St. Paul's Bridge there is just now much paragraph writing and more incertitude. Is the bridge to be built immediately, or perchance not at all? The Corporation of the City of London says neither yea nor nay to either of these questions, but waxes oracular about them both. If unemployment becomes really rampant, we shall get at least a promise that the bridge shall be built. That the original scheme for the bridge has had ample time to get mildewed or moth-eaten is, of course, mainly the fault of the war. It was in May, 1914, that the forty sets of competition designs sent in—a deplorably inadequate number for a work of sufficient importance to confer immortality on any designer who could rise to the occasion—were unpacked for assessment by Sir William Emerson, P.P.R.I.B.A., who awarded the first premium (£300) to Mr. G. Washington Browne, R.S.A., of Edinburgh; the second (£200) to Mr. C. E. Barry, of Westminster; and the third (£100) to Mr. E. R. Douglas Selway, of London. To secure architectural treatment for a bridge that was at first intended to be entrusted entirely to the hands of the engineers was a great point gained, but the Institute's recommendations with respect to the site were not accepted. The Institute held that the bridge should be built on an axial line leading up to the central line of the crossing of St. Paul's, so as to have the south transept and its portico, and the dome rising above it, centrally at the end of the vista. This scheme, the Corporation surveyors held, would destroy the value of the bridge in the matter of access on the north side, and therefore the line of Aldersgate Street should be carried past the east-end of St. Paul's and so southward: which line would take the road on the south side up to the junction of Marshalsea Road with Southwark Bridge Road. This latter scheme, or a very slight modification of it, is the one to which the Corporation is apparently committed by its purchase of property occupying the suggested site. But what is the work going to cost? The original estimate of £1,646,000 must now be greatly extended unless the bridge is to be spoilt.

Parliament and Luxuriant Wages

Mr. Ernest J. Brown, Director, London Master Builders' and Allied Industries' Association, has done excellent service in calling attention to a rampant abuse that is at present afflicting the building industry. Whether he suggests the right remedy for the evil is very doubtful, but there is no question of its extent and mischievousness. "There are," he says, "certain firms with abundant capital who wish to erect new buildings or alter existing ones, no matter at what cost, so long as they get their work done it does not concern them in the least what the result may be upon other classes of building work either in their own district or elsewhere, or whether they are houses or anything else. By offering inducements in the shape of an extra hourly wage, bonus for good time-keeping, "wet-time" allowance, walking-time, or by any other similar camouflage, these firms create an amount of chaos and unrest in the minds of the operatives that is of enormous harm throughout the industry." There is no doubt that it is demoralising; but the proposed remedy which Mr. Brown attributes to the wish of "the Resettlement Committee of the Building Trade Industrial Council, endorsed by the Council itself," does not seem practicable. The Council "wished to see it made an illegal action, under penalties if necessary, for any employer to offer above the standard rates of the district to any workman, whether engaged upon what are called 'luxury' buildings or housing schemes, or, in fact, any class of building whatever." One can but sympathise with the just anger that demands this drastic means of estoppel; and the proposed remedy would no doubt prove effectual; but, unfortunately, it would add yet another restriction to t many prohibitions from which the country is maki so tedious a recovery, and on that ground alone its rej tion—or, rather, its dilution to insipidity—cannot be garded as calamitous. The suggestion, therefore, penalising the plutocrats who debauch the workers a injure the country by deliberately destroying natural equilibrium of wages falls to the ground by natural gravity, the fact being that for so delicate matter as limitation of wages, legislation is an unfit strument. Parliament found, therefore, that the they could do was to resort to a kind of local opt rather than prohibition. Dealing with another bra —rather a rotten one—of the same subject, Mr. Bro is justly incensed with Mr. Hopkinson for repeating the House the hideous and wholly unjustifiable slan that "there was a combination between contractors the men they employed to get the maximum possi amount of plunder out of the taxpayer and ratepaye the country." Mr. Hopkinson should hasten to w draw his utterly reckless charge, in which, on enqu he will find that there is not an atom of truth.

Obstructive Statuary

Should statues be erected in the streets? In House of Commons last week, Mr. Gilbert asked First Commissioner of Works whether his attention been drawn to the obstruction to traffic of the Charles statue at Charing Cross, and whether he w consult with the police and road authorities as t removal to a more suitable position. Sir Alfred Mc answer conveyed the impression that he had been barded with complaints on this score, and had com what, for a First Commissioner, was a rather h decision. As removal would involve serious ris damage to the pedestal that in all probability was ca by Grinling Gibbons, and to the masterly sta wrought by Hubert Le Sœur about 1633, but erected on its present site until 1675, the First Com sioner is afraid to remove the statue. It stands "o very spot where several of the regicides were exe and facing down Whitehall towards the scene o king's death"; also it occupies the site of the or Eleanor cross which gave the name Charing Cross district. The First Commissioner is certainly applauded for his wise decision; and while the æs mood is upon him, his attention may be called deplorable disfigurement of Mr. H. Hampton's sta Spencer Compton, eighth Duke of Devonshire, Whitehall end of Horseguards Avenue. To the of this dignified statue some soulless person ac attached a large card bearing in great ugly letteri legend, "Keep to the left." An elementary ser decency should have prevented this outrage.

The Advertising Exhibition

It was a great pity that rain interfered with th cession of "posters incarnate," which was inten advertise the International Advertising Exhibitic spite of the depressing conditions, however, it wa interesting to see the familiar pictures material three dimensions, after the manner of the Baronet's ancestral portraits in "Ruddigore." exhibition itself, which opened last Monday, t very much quite respectable art, and we were glad that both in this regard, as well as in the employ methods that are perhaps more ingenious than the advertisers of articles that relate more or less and directly to the construction, the adornment comfort and amenity of buildings easily held the Details of such exhibits are reserved; but a encouragement for those who have shown the mindful of the artistic side of advertising need postponed.

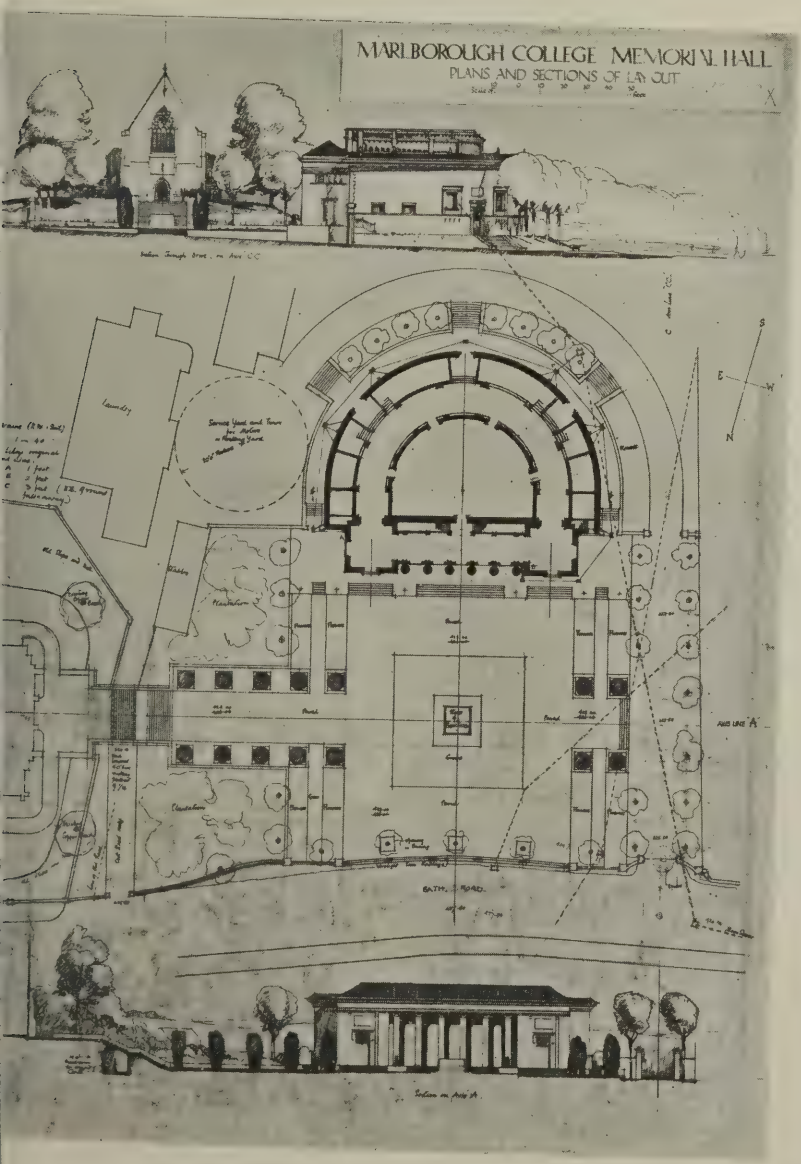
Marlborough College Memorial Competition

THE awards in the above competition, announced last week by the Assessor, Mr. John W. Simpson, P.R.I.B.A., are as follows: 1st (Premium £300, to be merged in architect's mission on work), Mr. W. G. Newton, M.A., R.I.B.A.; 2nd (Premium £200), Mr. F. B. Dunkerley, R.I.B.A.; 3rd (Premium £100), Mr. Horace G. Webb. pecial recognition was accorded the design marked 1, by Mr. C. Stanley Peach, F.R.I.B.A., to whom Memorial Committee have voted an honorarium of).

he competition was limited to architects whose nes appear on the College Register as former students. designs are now on view between the hours of a.m. and 5 p.m., in the Galleries of the R.I.B.A. in duit Street, where they will remain until Saturday t, December 4.

he instructions to competing architects laid it down the new building should be planned on two axis lines nd B. A, the main axis of the existing chapel, was ovable, but B, perpendicular to A, might be moved or west at the discretion of competitors. These lines were not necessarily to be those of the building f, though it had to be clearly based upon and related nem, *e.g.*, either line might form the centre of the entrance or of a forecourt. It had to be borne in mind that the approach to the building from the College would be from the Chapel Terrace.

Designs had to provide for (a) 1,500 seats for the audience, preferably chairs; (b) platform for speakers and for concerts and other entertainments (but not stage plays); (c) retiring rooms (with external access) for men and women speakers or performers, with separate lavatory accommodation for each sex; (d) an organ; (e) main entrance and vestibule, with cloak-rooms and lavatory accommodation for both sexes; (f) proper emergency exits; (g) approach for carriages from the Bath Road; (h) approach footway from the Chapel Terrace; (i) prominence in the internal design for the names of Marlburians (about 700), who have fallen in the War, this being the primary purpose of the memorial; (j) good acoustical properties for both speeches and music. In addition to the foregoing, the following suggestions were made for the consideration of competitors, though non-compliance with them would in no way prejudice the assessor's judgment: (a) that the internal form of the hall should be that of an amphitheatre; (b) that the approach from the Chapel Terrace should be formed by a simple stone bridge thrown over the sunk road, with steps to the lower level at its western abutment; (c) alternatively to (b) that a stairway be formed on the eastern side of the sunk road, from the Chapel Terrace to the lower level; (d) that if spare room were found (*e.g.*, under the upper ranges of seats, if a stepped auditorium be provided) it should be allocated to music teaching and practice rooms. The style of architecture was rightly left to the discretion of the competitors, though it was desired that the design should be of a quiet and simple character.



WINNING DESIGN: W. G. NEWTON, M.A., A.R.I.B.A., ARCHITECT.

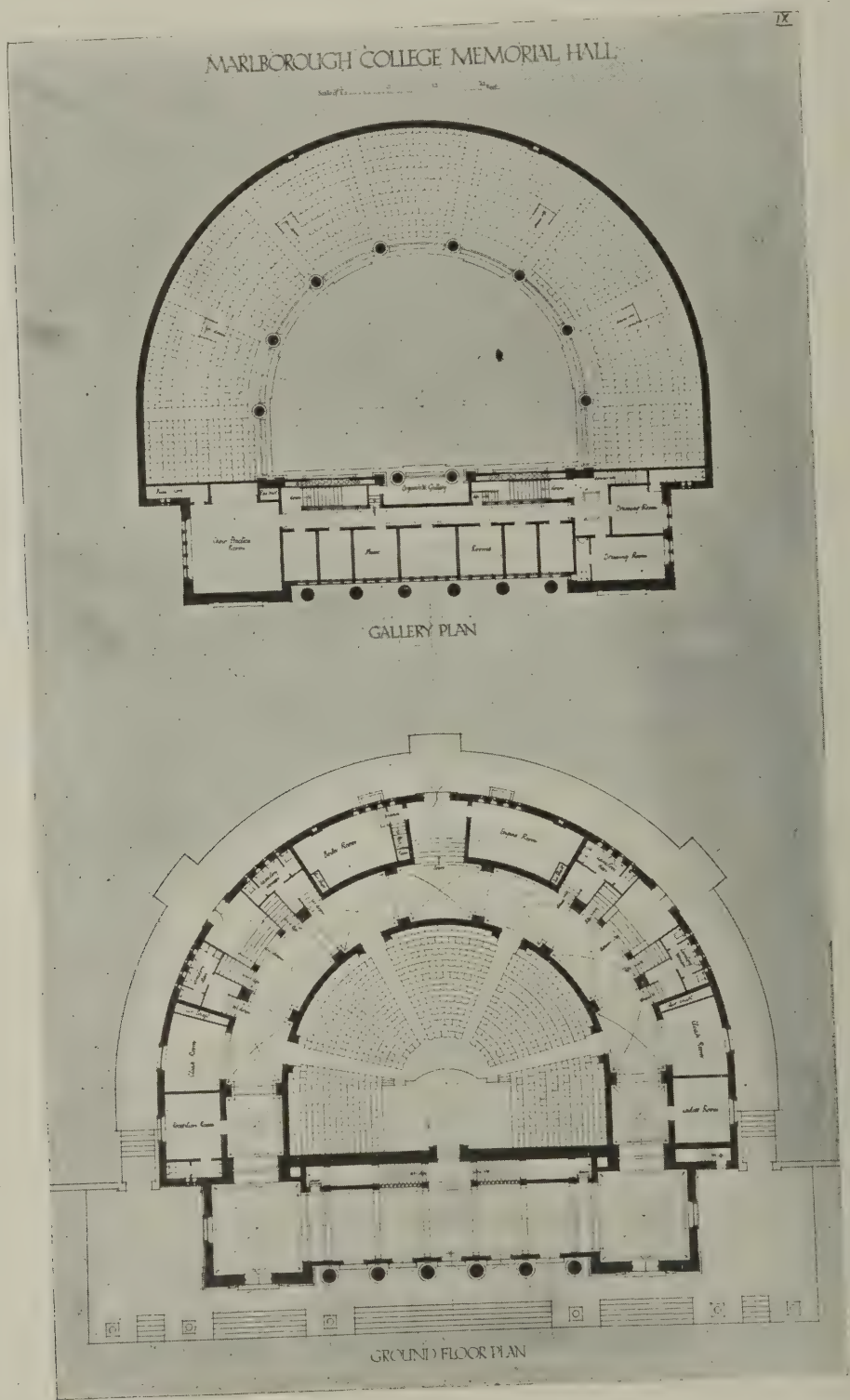
How successfully Mr. W. G. Newton has interpreted these conditions may be judged from the accompanying reproductions of his drawings. First, we may note on the small point of the approach from the Chapel Terrace, that he has rightly made use of a bridge over the sunk road, with steps to the lower level. This, while affording permanently clear access to the Memorial building, provides a separate right-of-way for vehicles to and from the laundry. Adoption of the alternative suggestion would have meant a loss of privacy, besides involving the crossing of vehicles and pedestrians at the same level.

Mr. Newton, adopting the form of a semi-circular amphitheatre, has devised an excellent plan. A spacious vestibule leads right and left to a corridor running continuously around, and giving access to, the hall, and having the cloak-rooms and various offices disposed on its outer side. From the vestibule, also, stairways run to the gallery level, where, above the vestibule but cut off from the hall itself, the dressing-rooms and rooms for music and choir practice are located. It might, perhaps, have been an advantage if access to the hall had also been possible at this level.

Adequate extra provision for ingress and egress is provided by three doorways disposed around the hall on the ground-floor level. Architecturally, the

design is commendably simple and dignified, the principal elevation being a thoroughly sound and expressive composition in the monumental manner. The architectural treatment of the rear elevation, is not, however, altogether happy, doorways and windows competing one against the other and producing rather a switchback

Adequate and excellent provision for the names of fallen is made on the walls around the lower level of auditorium. Mr. Newton proposes that these nam which are to be cast in bronze and gilded, shall arranged not in columns, but in lines. This is an adn able departure from conventional practice. Columns



WINNING DESIGN: W. G. NEWTON, M.A., A.R.I.B.A., ARCHITECT.

effect. It is difficult to see how this could have been avoided, for the treatment is logical and expressive.

With regard to the interior, the use of a colonnade to support the superstructure is not to be commended from the practical point of view. These great columns, though producing a very fine objective effect, would inevitably obscure the view of some part of the platform from a number of points in the gallery.

lines, with their inevitable variation of length destroy the effect of continuity so necessary in such as this.

A point of practical interest is the ventilation ously arranged through grilles in the entablatu hall in conjunction with adjustable glass louvr

Comment upon the other premiated designs reserved until next week.

rchitectural Causerie: About the Albert Hall

N concluding my appreciation of the Royal Albert Hall, I show a photograph of a model of the building as originally projected. The experts concerned with the military gentlemen—Captain vke and Lieut.-Col. Scott, of the Royal Engineers—he production of this design were, as I have already ted, Messrs. James Fergusson, J. Fowler, J. Hawkw, R. Redgrave, Sir William Tite, and Matthew by Wyatt, forming a Committee of Advice, with Mr. mas Verity and Mr. Phené Spiers engaged to assist virtue of their knowledge of Italian detail. Assoed with Lieut.-Col. Scott was also Mr. G. Townroe. h so many experts on the job it is not at all surprising the initial attempt should have resulted in comparafailure. This first conception, with its unattractive ours and bride-cake detail, was fortunately abaned in favour of the incomparably finer design aled in the existing building.

* * *

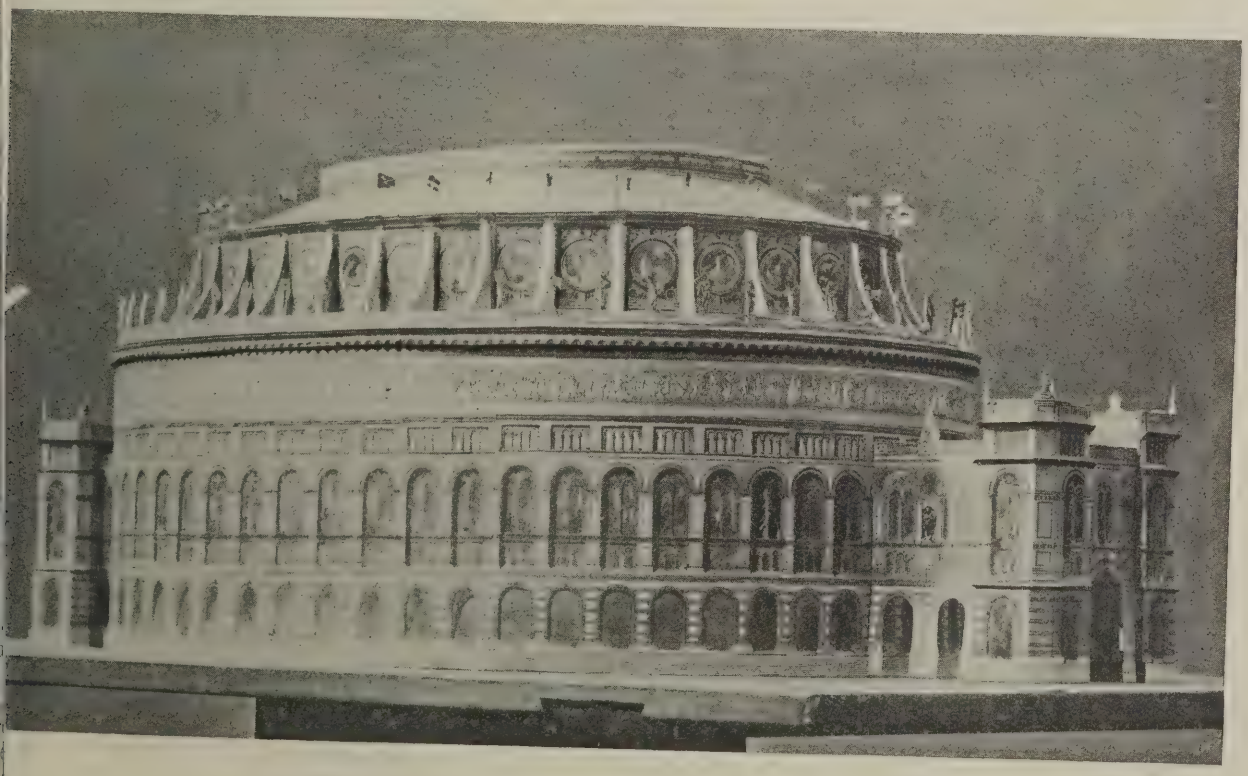
he Royal Albert Hall is one of the finest of our ern buildings. America can show nothing to equal Even the great McKim, one of the leading expos of the sweet uses of brick and terra-cotta, never the opportunity of producing anything on such a scale. There is a quiet dignity in the massing, a ndid effect of contrast in the treatment of the sur, particularly the fenestration and the architectural ls; all of which is enhanced by the subtlety of the ding curves of the ellipsoid. There are minor faults rouping and detail, but such are scarcely worthy of e. No building is without faults, and a faultless ing would border on the insipid. Here is a modern ing, new the day before yesterday, yet already forn. I for one will not join in the cry of the ultrarnists, for my own views are progressive. In works e art it is the idea that matters, not the costume, the r, or the cut of a moulding. If the idea is there, the ing will be the last word in taste, style, modernity, ruction, craftsmanship, and all the rest of the confusing jargon forming the shibboleths of the manyheaded. There are thousands of modern buildings going up in this England of ours representing the very latest theories of comfort and accommodation. Some of these edifying masses are supposed to express direct construction. So they may. It would be possible to forgive and forget minor faults, except those connected with taste and form. Buildings, like persons, are either brilliant or stupid, insolently aristocratic, or comfortably bourgeois.

THE ROYAL ALBERT HALL: MAIN ENTRANCE.

* * *

If the Victorian era did produce the Albert Memorial, let us not forget that it also produced the Albert Hall. Let us study this great building anew for what it has to teach us of scale, proportion, and the correct use of material; for its value in showing the application of scholarship to the problem of producing buildings that shall be at once modern and appropriate to purpose.

AERO.



ORIGINAL DESIGN FOR THE ROYAL ALBERT HALL, LONDON.

Architecture in the New World*

By Major H. BARNES, M.P., F.R.I.B.A.

THOSE who know me as an architect think I am best as a politician, and those who know me as a politician think I am best as an architect. It seems to have been assumed that I was to talk about America. I have not been to America, and although members' salaries are at present under discussion, the increase is not likely to be sufficient to cover costs of travelling. Not that it is necessary to have visited a place or to know anything about it in order to talk about it nowadays.

There is a poignant passage in Peter Pan where the audience is besought to believe in fairies. I am pained to hear that there are members of the A.A. who don't believe in the new world. Not necessarily a better world, maybe a worse, but it is sure to be new. In our own time we have seen old Empires go and new republics come. Anyway, architects have something of a new world to face, both those who profess and those who practise architecture. For instance, practitioners will be composed of members of both sexes, and here I must remember I am a politician. The electorate of the new world will consist largely of women. But how will this affect architecture? Great architecture is derived from heat and passion. Women, I think, being the cooler sex, will not change the artistic and æsthetic standards. But women's business capacity will help us. They will help us to maintain our scale of fees. I can imagine a client agreeing to a charge of ten per cent. when the option is put to him by a sufficiently attractive practitioner. On the other hand, women have a lower standard of life than men, and as employees young men must insist on young women keeping to a high scale of remuneration. The R.I.B.A. scale of remuneration is now under discussion at the Royal Institute.

No doubt there are difficulties in the way of applying a minimum scale; but the difficulties have to be got over. We must consider nowadays the standard of life to be preserved rather than output.

Major Barnes proceeded to discuss the prospects of architectural prosperity in the future. He hoped that all the younger members present would in time become as eminent in the practice of their profession as the successful men on their own Council. But that was, of course, theoretical; that was how he would like it to be. In the realm of the practical he knew, and probably everyone knew, that large numbers of present students could not arrive at practice at all. There were several reasons for this. Official architecture was going to develop. That was perhaps not a pretty prospect. But it seemed inevitable. The scope of all local authorities was going to widen. He has just been speaking about the problem of hospitals with Mr. Stanley Hall.

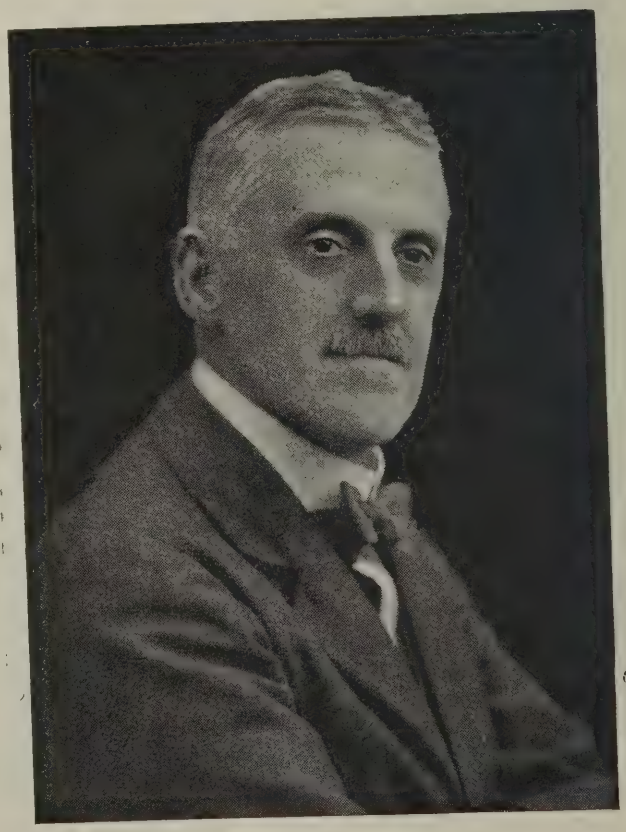
It seemed fairly obvious that hospitals were going over from private control to State control. There was also the fact that the future would be the age of great trade associations and trusts. In these commercial associations one or two great men would have the power and would tend to trust their work to eminent practitioners. That may not sound hopeful. But not to be in practice would have its compensations. A man once complained to Epictetus that he had not been invited to a supper by a certain rich man. Epictetus asked if he had paid the price; the price was flattery; and added, "at least you have escaped the insolence of his doorkeeper." Those of us who had no practice at least escaped the whims of clients.

In the old world the patrons of architecture had been first the priest, then the prince, then the plutocrat. But in the new world the patron would be the people. Architecture in the future would rise at their demand and be paid for by them. Provision for architecture would come from public funds. If one could divest oneself of the idea of being a ratepayer and think only of being an architect there were certainly signs of a great era before us. There were likely to be half-million town halls. The architectural demand would remain, but patrons would change.

There were two requirements for great architecture. First, a great urge, a great central idea. Second, the power to spend other people's money. No one spent his own money on great architecture. In private life great architecture was not commissioned by men who had made their own fortunes, but by men who have come in for fortunes. In the past, priests trading on the idea of danger in the next world obtained the use of other people's money by fear. The Romans and Assyrians built, and paid for building, out of loot and the spoils of war; they got other people's money by force. The great merchant princes also—well, it would be too much to say they got their funds by fraud—but in the world of the future funds must come by favour. There was no other way. Architecture must be financed by taxation. There would b other means of getting other pe money. What other sources would be? Private men would tend to conce fact of wealth if they possessed it.

As to whether there would be a great pelling dominant idea in the future— there were indications of it. Witho without such an idea, the world wou very blank. Would the President go to history as the builder of the last cathedral? He supposed that the dy idea of the future was the Leag Nations—the New Jerusalem, with to north, south, east, and west. W League of Nations coming? He co say. But to some extent we could realisation of it at Geneva. An hot been bought to house the adminis departments. There was certainly th of cosmopolitanism in an hotel. showed the influence of the Engli was rather English to buy a public for practical needs instead of ha grandiose building designed for th pose. On the other hand there is no that if a fine international city planned and carried out it woul tainly be a very great real in stone of a very great and idea—perhaps the greatest the has seen. It would be the great ur would have a reflex action all o world. An International World might very well come about, and th fact be adequately expressed in ar ture. Or the whole conception mig fantasy, something unreal, but su to relieve the monotony.

After a brief speech by Mr. Williams-Ellis a hearty vote of than accorded to Major Barnes.

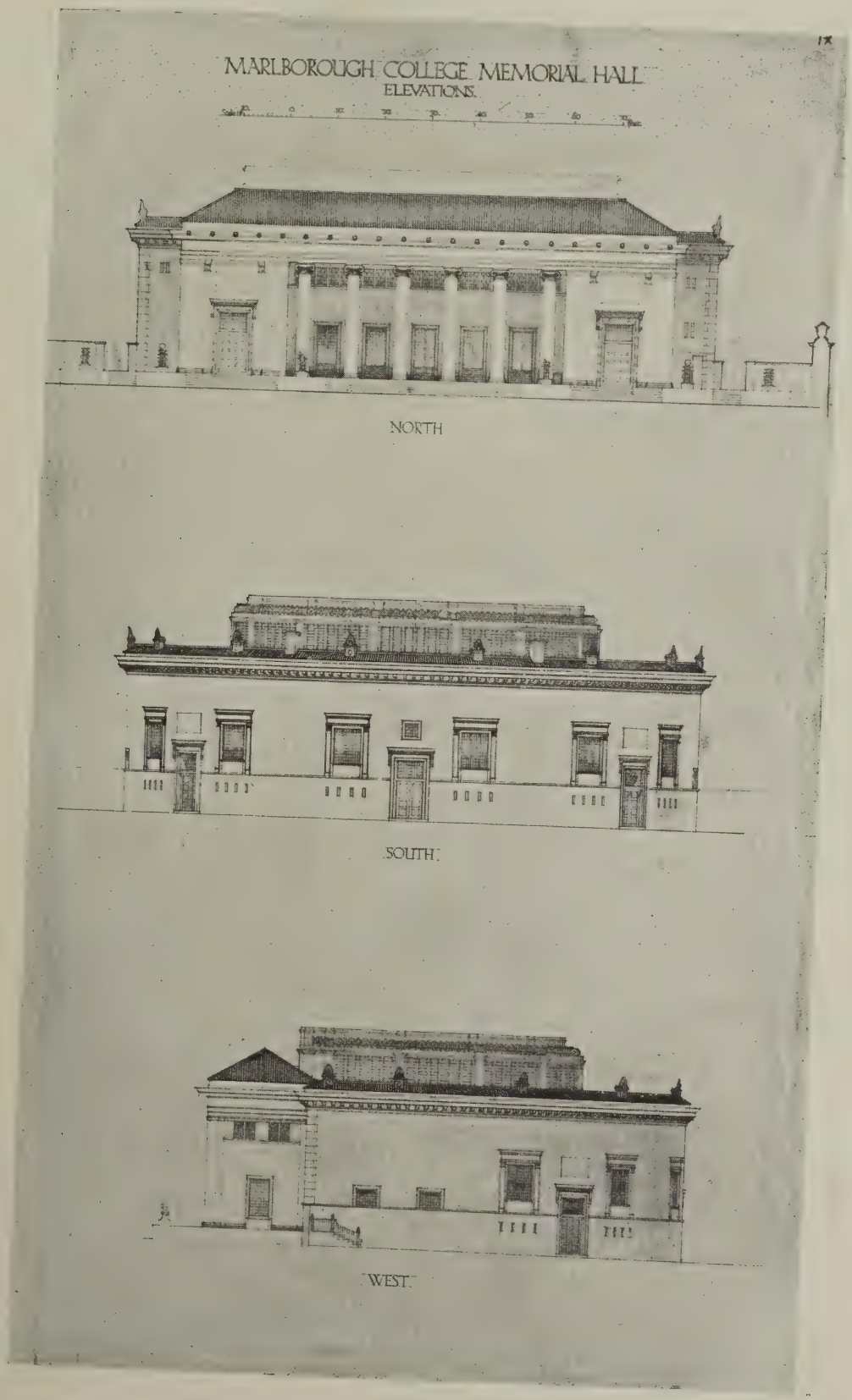


MAJOR H. BARNES, M.P., F.R.I.B.A.

* Extracts from an address to the Architectural Association.

War Memorials. 10.—Competition for proposed Speech-Room, Marlborough College: First Premiated Design

W. G. Newton, M.A., A.R.I.B.A., Architect



The drawings submitted in the above competition (which was limited to Old Marlburians) are now on exhibition in the Galleries of the R.I.B.A., where they will remain until Saturday next, December 4. Mr. W. G. Newton has carried off the honours with a well-conceived design in the monumental manner. Some descriptive and critical notes appear elsewhere in this issue.

New Methods of Construction for Housing

THE Committee appointed by the Minister of Health to consider (*a*) questions of standardisation of materials and fittings, and (*b*) proposals in regard to new materials and methods of construction, have issued its report on the work of the Committee up to April, 1920. The Committee have held forty meetings, and in addition the Sub-Committee have made several inspections in connection with new and special methods of construction. In the course of the report the Committee state: The earlier meetings were occupied mainly in the consideration of suitable standards for structural fittings, which embraced baths, lavatory basins, water-closets, sinks, ranges, grates, washing coppers, metal casements, water fittings, gutters, rainwater pipes, soil, ventilating and external waste pipes, and ironmongery. The result of our investigations showed that all of these could be standardised with advantage, except ironmongery, ranges, grates, coppers, and metal casements.

In connection with cottage construction, we considered the superimposed loads which the floors should be calculated to carry in addition to the weight of the floor itself, and from information collected we are of opinion that 56 lb. per super. ft. is not likely to be exceeded, and that this load might be accepted as the basis of calculations for their strength.

Brick Construction

After considering the various tests to which samples were submitted, we recommend the use of hollow bricks not less han 6 in. thick for outside walls, with kins and stiffening webs of not less than in. in thickness. Such hollow bricks night be used for partition walls down to in. in thickness, with webs and stiffeners s before. Such bricks are lighter for ransport and handling, and economise naterial and fuel in manufacture.

We also suggest that walls might be artly of brick and partly of concrete locks, the inner part of the wall to be rick 4½ in. thick, and the outer part to be thin concrete slabs, with a proper avity and wall ties between the two thicksses, or the outer part might be of brick nd the inner of concrete.

We also recommend the approval of the mposite or three-ply wall, the outer part which would be built of bricks 4½ in. ick, the inner part of concrete slabs ving a space of not less than ¾ in. beeen which would be filled up with a stiff ment mortar-grout.

We are not able to recommend that ernal walls for cottages of one storey ould be built of brickwork 4½ in. thick, en if protected from the weather by ghcast or cement rendering, or other ather-proofing material, on account of high thermal coefficient which such a l possesses.

Chalk Bricks

Ve very carefully considered the various materials available which were not g used for building material to any t extent, and were of opinion that k was a promising material. We therecided to promote investigations the possible greater use of this mate particularly with a view to the saving ansport, fuel, and encouraging local uction of suitable building material.

We have been kept acquainted with the experiments which have been carried out by the Department of Scientific and Industrial Research, and by Messrs. Sutcliffe, Speakman and Company, of Leigh, Lancashire. Mr. E. R. Sutcliffe attended the meetings of the Committee on various occasions and supplied us with valuable information.

The following notes are compiled from his firm's investigations and research work:

The chalk used for the experiments contained about 14 per cent. of moisture, and additional water was added in some of the tests.

Chalk containing up to a total of about 18 per cent. to 19 per cent. of moisture was found to feed into the brickmaking machines satisfactorily.

Chalk containing higher percentages of moisture did not produce such well-made bricks, but it is possible that with further investigations and the employment of different methods of preparation better-made bricks might result with the higher percentage of moisture.

Care must be taken to graduate the grinding to suit the various qualities of chalk used, so as to prevent lamination in the bricks, and in different districts different disintegrators or mills will be required.

With further experiments it may be found that bricks for outside work will require about six parts of chalk to one part of cementitious material, but for inside and for external work where an efficient covering is employed for protection against our atmospheric conditions, the composition of about fifteen parts of chalk to one of cementitious material will prove satisfactory.

The Committee continue: When it is remembered that no fuel is required for these bricks, except such as is necessary for power and for the cementitious material, the value of these investigations can be appreciated particularly in connection with districts where chalk is readily obtainable.

We regret that so many limekilns in chalk districts have been closed, and consider that they might usefully be revived in connection with the manufacture of chalk bricks. Good results are obtained when these are made with slaked lime and ashes.

Rammed or Moulded Materials

As yet we have had no opportunity of experimenting in these various methods of construction, but we think it is very desirable to make efforts to obtain materials and devise methods of building in which artificial cementitious material will not be required. We have recommended that housing authorities should be permitted to erect houses with such materials, subject to the work being executed with a durable wall base, dampcourse at the foot of the wall and on the wall head under the roof timbers to protect both "head and foot" from moisture, and subject to the exterior face being adequately protected from the weather, such work to be carried out under skilled technical supervision.

Various methods of finishing the external faces of walls of this construction should be tried as alternative to cement rendering and plastering. We feel that all materials used in this connection should be free from humus matter.

Cement Concrete

Most of the proposals which have been laid before us have been connected with concrete construction, and, in view of the increasing number submitted for approval, we found it desirable to draw up a Standard Specification. After this specification was adopted by the Ministry, it was agreed, unless special circumstances obtained, that so long as the construction complied with this specification, special approval was unnecessary.

The proposals have resolved themselves into four classes:

(*a*) Concrete slabs forming a cavity wall.

(*b*) Cavity concrete blocks of the full thickness of the wall.

(*c*) Concrete walls built *in situ*.

(*d*) Reinforced concrete construction of various kinds, but generally embracing the three systems of walling previously described.

(*a*) and (*b*) Concrete Slabs and Blocks.—We have endeavoured to ensure that the blocks or slabs used in the construction of walls shall be of such a form as to prevent moisture from percolating the outer part of the wall to the inner part through the vertical and bedding joints. Our investigations showed that surface waterproofing does not prove satisfactory where there are return ends to the slabs which come in contact with the inner thickness of the wall, and that walls built with plain slabs and a continuous cavity offer a better resistance to weather than blocks of the full thickness of the wall.

Many blocks and slabs have been placed before us which are too heavy and large for convenient handling. We consider that one of the first essentials of concrete block or slab construction should be lightness for handling, and easy adjustment in position on the wall during fixing. Where blocks have to be transported a considerable distance from the place of manufacture to the site, it is not likely that such blocks will prove more economical in use than brickwork.

(*c*) Concrete Walls Built *in situ*.—We came to the conclusion that where suitable aggregate was available on or near the site, monolithic concrete construction should prove more expeditious and economical than block or slab construction, for which the blocks or slabs have not only to be made and matured, but which also involves second handling and employment of more or less skilled labour in fixing.

We have considered various proposals for monolithic concrete construction, and these comprise plain solid walls, walls with a continuous vertical dampcourse and walls with cavities both interrupted and continuous. Proposals were received for solid monolithic concrete walls down to a thickness of only 4 in.; and while there may be no question as to the stability of these walls, we came to the conclusion that unless the concrete was composed of a hard and suitable aggregate and the best cement, and unless the execution of the work was very carefully performed, it was impossible to ensure that such walls would be damp-proof. In addition to this, the thermal coefficient of a thin concrete wall

was not sufficient to maintain an equable temperature within the building.

We recommended the approval of various forms of concrete walling with a continuous vertical dampcourse, which not only ensures dryness to the inner part of the wall, but also serves as a thermal insulator.

We also recommended the approval of various forms of monolithic wall, formed of two leaves bonded together either with concrete of approved wall ties.

(*d*) Reinforced Concrete Construction.—Very few of the reinforced concrete proposals submitted for our consideration offered sufficient economy to compete commercially with other systems of concrete construction.

After having considered a very large number of schemes of various designs for reinforced concrete construction for cottages, we came to the conclusion that if the Ministry's Specification for Cement Concrete Building were adopted, these methods would in all cases prove more economical than reinforced concrete work, and we decided, therefore, not to consider in detail reinforced concrete proposals, except where special and exceptional circumstances arose.

Steel-Framed Houses

Various proposals for steel-framed houses have been considered and recommended for approval, subject to the usual standards of stresses being recognised, and to the thorough protection from corrosion of the steel in the cavity of the walls where it would be exposed to the moisture from condensation.

We consider that the only present satisfactory method of ensuring the protection of the steel members in the wall is by thoroughly encasing them in concrete. The proposals recommended for approval in all cases included an external wall having an air cavity, the external finishing to be either in hard, fine concrete, or cement plaster on perforated metal lathing, thoroughly embedded in the concrete or plaster, not less than ¾ in. on each side, so as to produce an external covering not less than 1½ in. in thickness. The inner face of the wall might be either of clinker concrete slabs, plaster slabs, or other approved wall linings, with the exception of matchboarding and other material likely to harbour vermin.

Timber-Framed Houses

Various proposals for timber-framed houses have been laid before us, and we considered it essential that a Standard Specification should be prepared. The Standard Specification for Brick Cottages was therefore adapted to cottages of timber construction, and the various methods of covering the timber-framing, externally and internally, as described under the heading "Plasterer." (This Specification is now on sale at H.M. Stationery Office.)

Building Appliances

Various suggestions connected with building appliances have been laid before us; the greater proportion of these have been in connection with machines for making concrete blocks and shutterings or forms for concrete walls. We are of opinion that in the manufacture of concrete blocks those made under pressure by a machine properly designed for the purpose are more reliable than those made by hand tamping only.

In forms or shutterings for concrete walls we consider that those systems should be favoured where the same shutterings can be used over and over again, and where it may be cleansed easily after each height of wall is laid, and does not involve waste of timber in its use.

Before adopting any of the proposed methods of construction which have been submitted to us, it will be desirable for building authorities to assure themselves that the schemes submitted to them are in accordance with the terms of the Ministry's approval and that the houses are otherwise constructed in accordance with the Ministry's Standard Specifications where applicable, also that the work is carried out with the appropriate materials and with sound workmanship under proper skilled technical supervision. The report, which is signed by Messrs. A. Alban Scott, M.S.A. (Chairman), R. Brown, M.Inst.C.E., H. T. A. Chidgey, J. Wightman Douglas, T. W. A. Hayward, M.Inst.C.E., E. Leonard, H. G. O. Leslie, R. Robertson, S. B. Russell, F.R.I.B.A., T. Tyrwhitt, R. Unwin, F.R.I.B.A., E. J. Illsley (Technical Officer), and Miss E. H. Taylor (Secretary), may be obtained from H.M. Stationery Office, price 1s. 6d. net. H.M. Stationery Office, price 1s. 6d. net. It contains the following appendices: (1) Standardisation of structural fittings; (2) information supplied to the Committee which may be of value to those who are desirous of proceeding with building in rammed or moulded unburnt materials; (3) Extracts from communication addressed to the Board of Agriculture in 1797 on pisé construction; (4) a translation from the French dealing with pisé de mache fer (rammed clinker and lime); (5) specification for cement-concrete building; (6) lists of proposals approved.

Housing Progress

The progress of private building may be inferred from the fact that sanction has already been obtained from the Ministry of Health for the erection of 4,577 houses, of which 3,556 are now completed. The number of houses completed last week was 314—an increase of 114 on the week ending November 5. Naturally, it is in the Metropolitan area that the housing shortage is most acutely felt. No fewer than 5,216 houses have been built or are in progress of building by private builders in the Metropolitan area. The counties of Lancashire and Cheshire contain a large industrial population, and the total number of houses in those two counties for which Certificate "A" has been issued amounts to 3,052.

New housing schemes submitted to the Ministry during the week ended November 20 numbered 51, bringing the total number of schemes submitted to 11,337. The schemes approved now number 8,561 and comprise about 56,110 acres. Forty-four lay-out schemes were submitted, and 44 were approved during the week, bringing the total number of lay-outs submitted to 6,710 and number approved to 6,131.

House plans representing 3,767 houses were submitted ,and plans for 3,355 houses approved. The total number of houses represented in all plans now submitted is 275,410, and in the plans approved 259,102. During the week tenders were submitted for 4,308 houses. Tenders for 3,562 were approved, bringing the total number of houses in tenders submitted to 173,433, and in tenders approved to 159,984. Contracts have been signed for 125,350 houses.

Birmingham Architectural Association

The second general meeting of the session of the Birmingham Architectural Association has been held at the Midland Hotel, Birmingham. The president, Mr. H. T. Buckland, F.R.I.B.A., occupied the chair, and thirty-one members were present. The meeting was preceded by a dinner in honour of Mr. John W. Simpson, President R.I.B.A., who was the guest of the Association on the occasion of his visit for an "Informal Talk on Institute Affairs."

Mr. Simpson said he had come to have an informal talk with Birmingham architects; he did not propose to deliver any set address. He was anxious that a comradeship should exist among architects. There seemed to be a feeling that the London members of the R.I.B.A. were not sufficiently in touch with their provincial brethren, and such a feeling was most undesirable, and one which ought to be removed. He was there to cheer architects up. The difficulties in the profession at the present time were indeed great, but many architects were doing well, and things generally were improving. There was no cause to become too depressed. If they planned their buildings well they were standing upon the ancient traditions, and their work remained and became classic, but the inferior work gradually died out, just as it did of old. If they followed the spirit of the old masters they would contribute to art and have monuments to their credit that were immortal. Mr. Simpson asked if any members present had any special grievances to bring up for discussion. He hoped they would treat him as a Parliamentary candidate and heckle him.

Mr. H. T. Buckland read an article which had appeared in the "Birmingham Post" entitled "Work of the City Housing Department," being an extract from the annual report of the local Housing Director.

The President of the R.I.B.A. said he thought some of the statements contained in the report should not be allowed to pass unchallenged, and he thought the Association a most suitable body to take the matter up. The average fees to architects on housing schemes, he asserted, were about 1½ per cent. Housing was an enormous business in which the issues were enormous, and was apparently not understood by Members of Parliament. The cost of houses was very great, and they were very much behind in their production, but the Government would not face the problem squarely, especially the question of expenditure. If high rents were insisted upon, the local authorities would have to bear the brunt, and they would have houses with such prohibitive rents that no working man would be able to afford to live in them. Some of the methods introduced by the Ministry of Health Architectural Department were not tending to ease matters in the question of houses.

Mr. H. T. Buckland, Mr. Bateman, Mr. Nicol, Mr. Savage, and Mr. Martin made reference to the revolution taking place in connection with the form of contract, and expressed various views on the subject. The President of the R.I.B.A. was of opinion that it was fortunate that the Builders' Federation were drawing up a form of contract of their own. If they would agree to such a form of contract that remained for the architect to do was to administer the contract.

30.—New Offices for the Leicestershire County Council, Grey Friars, Leicester

The Late S. Perkins Pick, F.R.I.B.A., and Wm. Keay, Joint Architects

The first portion of these new buildings, now in course of erection, provides accommodation for the Education Department and the County Surveyor. The building on the left of the drawing is of the eighteenth-century period. Incorporated in the general scheme, it gives the key-note to the façade. The materials include thin Woodville bricks, a sparing use of Portland stone, and Burlington slates. Messrs. Haskard, Rudkin, and Co., of Leicester, are the contractors, their tender amounting to £24,087. The foundation stone was laid on October 18, 1920, by Sir Thomas Cope, Bart., Chairman of the Council.

The Late Lieut. Alick G. Horsnell's Drawings

The loss that architecture and painting have suffered in the death of Alick Horsnell (he was killed in action in 1916) is poignantly recalled by the exhibition of a selection of his water-colour and other drawings at the Architectural Association in Bedford Square. Though only thirty-four at the time of his death, he had already won a considerable reputation, both as a draughtsman and water-colour painter and as an architect. Year after year his brilliant architectural perspectives (many for Mr. Ernest Newton, A.R.A., whose chief assistant he was for a period of six years) adorned the walls of Burlington House; and just prior to the war he had firmly established himself in private practice, receiving the honour of an invitation to take part in the final competition for the Board of Trade offices, and winning the open competition for the new Town Hall at Middleton, Lancs., outright, besides being "placed" in others. His career was, indeed, full of brilliant promise. Withal, he took his success modestly, even humbly, and remained the same charming and unassuming good fellow that he had always been. Not only for his art, but for his sterling character we must always miss him.

The drawings on view at the Association reveal the extraordinary scope of his powers—powers which, although already highly developed, were still growing and strengthening. Easily among the first half-dozen of the leading architectural draughtsmen of his day, he perhaps excelled them all in the capacity for landscape work. Numerous examples of his art in this kind are on view, and they show him to have been a keen observer of nature in her many aspects and moods. Whether he is portraying a calm and sunlit scene of rustic beauty, a broad sweep of open and undulating downs, or a storm-swept landscape with lowering sky—he is equally convincing and impressive. His sense of colour values is perfect. One notices in particular his consummate rendering of foliage and shadows by means of warm masses of soft colour beautifully graduated and blended.

In pencil and charcoal he was also extremely successful, and some specimens of his work in these media are to be seen. By courtesy of the Association we are able to reproduce the accompanying charcoal drawing of Rouen.

The exhibition, which remains open until December 16, may be visited between the hours of 10 a.m. and 10 p.m. It comprises more than 100 drawings, a considerable number of which have already been sold, it having been thought, rightly, that many of Alick Horsnell's friends would like to have something of his work to treasure in memory of him.

G. J. H.

"ROUEN:" FROM A CHARCOAL DRAWING BY THE LATE LIEUT. ALICK G. HORSNELL.

Society of Architects

The following business has been transacted at a Council meeting of the Society of Architects:

Leave of Absence.—The Council has granted temporary leave of absence from their duties to the following members of that body: Mr. G. H. Wenyon, absent in India as State Architect of Alwar, and Mr. A. F. A. Trehearne and Major Inglis, D.S.O., on medical grounds.

War Memorial Tablet.—The thanks of the Council have been conveyed to Mr. G. H. Wenyon, of the firm of Messrs. Poynter and Wenyon, who designed the tablet now fixed in the Council Chamber.

Miscellaneous Provisions Bill (Ministry of Health).—It was reported that the proposals for amending certain clauses of the Bill, agreed by the Society with Major Barnes, M.P., had been submitted by him to the R.I.B.A., who were also in favour of them.

Sessional Papers.—Mr. Bligh Bond, A.R.I.B.A., has accepted the Council's invitation to read a paper on "Glastonbury Abbey," on February 10, and Mr. Valentine Ball, O.B.E., barrister-at-law, will deal with the various forms of binding contract on March 17. Professor Groom will, it is hoped, contribute a paper on "Dry Rot" during the session.

Assistants Welfare Committee.—The Council have adopted a sub-committee's report recommending that the resolutions of the A.W.C. on minimum salaries and other subjects be referred to a joint committee of interested bodies for decision.

Unemployment Insurance Act.—The Council have confirmed their representatives' action in agreeing to join with other bodies in the formation of a scheme for unemployment insurance under Section 8 of the Act.

Vacancies on the Council.—To fill vacancies on the Council due to promotions to office, the Council have co-opted for a term of one year Mr. H. Stanley Barrett, Mr. F. S. Vickery, of London, and Mr. H. Bryant Newbold, of Stroud.

Hon. Auditor.—Mr. William Hoe has been reappointed as the Society's hon. auditor for one year.

Local Hon. Secretaries.—The following new appointments have been made: Mr. A. J. Cornelius, Truro, for Cornwall; Major C. F. Skipper, Cambridge, for Norfolk, Suffolk and Cambridgeshire; Mr. H. A. Smith, Oxford, for Oxfordshire; Mr. C. R. Peacock, Swansea, for Glamorganshire; Mr. J. A. Wilson, Glasgow, for Scotland; Mr. W. B. Bassett Smith for Buenos Aires, Mr. W. F. C. Gillam for Vancouver, Mr. C. A. Gibbs for Edmonton, and Mr. W. A. Chambers for Bombay. In other centres the present appointments have been confirmed for another year.

Building Trades Parliament.—The Council have appointed the President, Sir Charles T. Ruthen; the Immediate Past President, Mr. E. J. Sadgrove; Mr. L. Sylvester Sullivan, a vice-president, and Mr. Thomas Wallis, hon. secretary, to represent the Society on this body.

Architects' Benevolent Society.—The Council have appointed the President, Sir Charles T. Ruthen, as their representative on this body.

National Housing Schemes.—In view of information received as to the position of architects, and the difficulties they have to contend with generally, the Council will invite the co-operation of the R.I.B.A. in personally approaching the Ministry of Health with a view to getting matters arranged on a more satisfactory basis.

The Society's Masonic Lodge.

The installation meeting, held at the Holborn Restaurant, was marked by a large attendance of members and visitors, including several Grand Lodge officers. Mr. William Hoe was installed as Master for the year, and afterwards appointed and invested his officers.

The report of the Audit Committee was received and adopted, and resolutions were passed to raise the initiation and joining fees, and to amend the by-laws in other particulars consonant with the rapid progress made by the Lodge, which has a waiting list of candidates who seek to join it. The next regular meeting will be held on Wednesday, January 12, 1921. Members of other lodges desiring to attend the meeting are invited to communicate with the Secretary, 28, Bedford Square, W.C.1.

Mr. C. S. Errington on Current Topics*

THAT the experience of architects in practice has been only very partially brought to bear on housing is a matter of regret, not regarding only their own benefit, but the benefit which might have accrued to the general public and to those who are supposed to represent their interests. In our own district I could point to several well-known architects or firms of architects who have every qualification for engaging in work of this description, men who have been accustomed, by means of their large and varied experience, to meet difficulties of all descriptions and to surmount them as they arise, who have won the confidence of those who are engaged in the building industry, who know, by experience, the kind of houses which are required in each particular locality, the manner of laying them out and building them in the most economical way, so as to obtain that air of distinction and home-like character which is so desirable.

Yet these men are seldom consulted, and it has been customary in many of our towns and cities to set up large and costly housing staffs supervised, in some cases, by men who have not the necessary local knowledge or experience, and whose experiments—often very costly—have to be borne by the already over-burdened taxpayer and ratepayer.

It is very much to be desired, and I feel it is a matter of the utmost importance, that the services of architects of first-rate and acknowledged ability should be requisitioned for this work before it is too late, and if some method of co-operation can be devised, whereby some of the work can be done by younger men, acting in conjunction with those of longer and greater experience, it would not only counteract the tendency to monotony, but would be productive of that variety of treatment and design, which is so essential in large schemes.

In this connection I would urge that ex-Service men should receive special consideration wherever their skill and ability are sufficient to warrant their employment. This method of co-operation has been adopted at Manchester, Leeds, Bristol, Birmingham, and elsewhere, and I should like to see it given a trial in other large populous centres.

Luxury Building.

We are all familiar with the way in which the newly-acquired powers with regard to luxury building have been put into operation. We are also familiar with the extreme difficulty of finding anyone with means enough and to spare for building of any sort under the present conditions. Therefore, it is not surprising that so many of us are finding it very difficult to employ ourselves and our time advantageously enough to meet the demands which are now being made upon us.

I view with very great concern that there is yet another Bill just recently presented to Parliament, which is to deal further with the restrictions prohibiting "luxury" buildings, and giving additional power to the Minister of Health to take action in certain cases not covered by the existing law, and I sincerely hope that architects will concern themselves about the matter, and see that the powers proposed to be acquired are not such as further to impede the work of the building industry, in the welfare of which are vested our hopes for the future.

The subject of architectural competition is one which has received a great deal of attention in times past, and in this connection it should be borne in mind that it was the unsatisfactory conditions of a competition for a proposed institute to be erected at South Shields, in 1859, which called our Association into being, and it is only right and proper that we should continue to concern ourselves with this important subject.

The Institute and Competitions.

During the past year we have had a plethora of advertisements in the building papers, announcing subjects for architectural competitions, many being for monuments to commemorate those who gave their lives in the war. These were in so many cases followed by the banning notices of the Royal Institute that it seemed as if the time was not far distant when the "Royal Institute Journal" would have space for little else.

Your council have given the matter a great deal of consideration, feeling that the proceedings were not only undignified but were quite unworthy of a great profession. The short history of these unfortunate affairs is as follows: The would-be competitor reads the advertisement, deposits his guinea or guineas, as the case may be, and receives the conditions. The promoters of the competition are encouraged by the receipt of so many guineas and by the issue of so many sets of conditions. Then comes the Royal Institute banning notice.

The unattached architects go on their way—perhaps rejoicing; the Royal Institute would-be competitors sit twiddling their thumbs, or engage in some other pastime, until the next competition is announced, with hopes that the conditions may allow them to compete. The result, disappointment for the promoters and everybody, excepting perhaps the unattached architects, who find themselves engaging in a limited competition confined to their own class, and not in an open competition, as they at first expected.

As a council, we thought it might be possible to stir up the Royal Institute, and try and show how ridiculous the proceedings were becoming, and forwarded the following resolutions:

1. "Whether some method could be devised whereby all conditions of competition for public works should be submitted to the Royal Institute before the competition was advertised."

2. "The advertisement in each case distinctly to state that the conditions had been approved by the Royal Institute."

3. "That members of the Royal Institute who apply for such conditions where this approval does not appear in the advertisement should be deemed to be guilty of unprofessional conduct."

The reply from the Competitions Committee of the Royal Institute was not considered very satisfactory. The Royal Institute could do nothing of themselves; they were not the only body concerned. The Society of Architects and other bodies are in separate existence, etc. Some day, if and when these bodies became merged under one head, it might be practicable to carry out some such suggestion. Well, this was not very encouraging.

The correspondence is printed in the issue of the "Royal Institute Journal" dated March 20, and but for the letter of Mr. McArthur Butler, secretary of the Society of Architects, which appeared in the following issue, the matter would, I suppose, have been allowed to rest. That gentleman regarded the resolutions as embodying an important question of principle, calling for immediate action, and made suggestions as to how the questions might be solved at once, instead of being deferred to the future.

As it is, we are thankful for small mercies, and we read in a recent issue of the "Journal" that a joint memorandum has been drawn up, for circulation throughout the country, its purpose being to inform promoters of competitions of the course they must adopt, if they wish to secure, without delay, the co-operation of those who are best qualified to provide designs for the buildings they have in view.

* Extracts from the President's Inaugural Address to the Northern Architectural Association.

Law Report

Liability for Repairs

Blagrove v. Earl of Rosslyn.

November 11. Official Referee's Court.
Before Sir F. Newbolt, K.C.

In this case the Earl of Rosslyn, described as of 167, Westbourne Terrace, London, was the defendant, he being sued by Mr. Henry Barry Blagrove, residing at Calcot, near Reading, Berks, for the cost of repairs of Calcot Park and mansion, under the covenant of a lease and subsequent agreement.

Mr. Du Parcq and Mr. Monk were counsel for the plaintiff, and Mr. Schwabe, K.C., with Mr. Harvey, K.C., appeared for the Earl of Rosslyn.

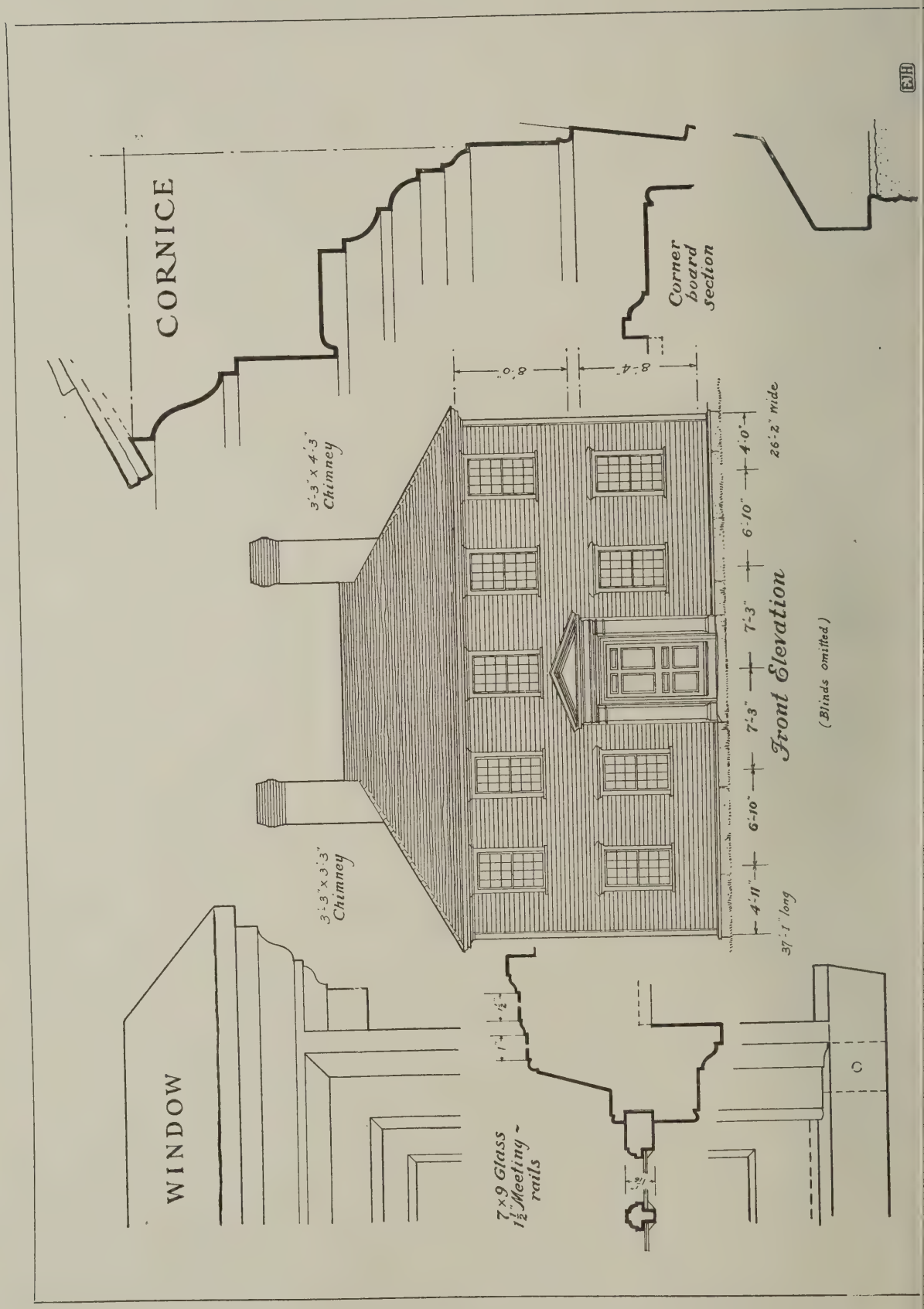
It appeared that Mr. Blagrove, who held a head lease of Calcot Park, sub-leased the premises to the Earl of Rosslyn at an annual rental of £939, for a period of twenty-one years determinable at an earlier date on notice. The lease was so determined, and the plaintiff now claimed that the Earl was responsible for the repairs, and the question between the parties was how far, if at all, the plaintiff was liable under the enlargement agreement, and whether or not a correspondence which had passed constituted an agreement by which defendant was bound.

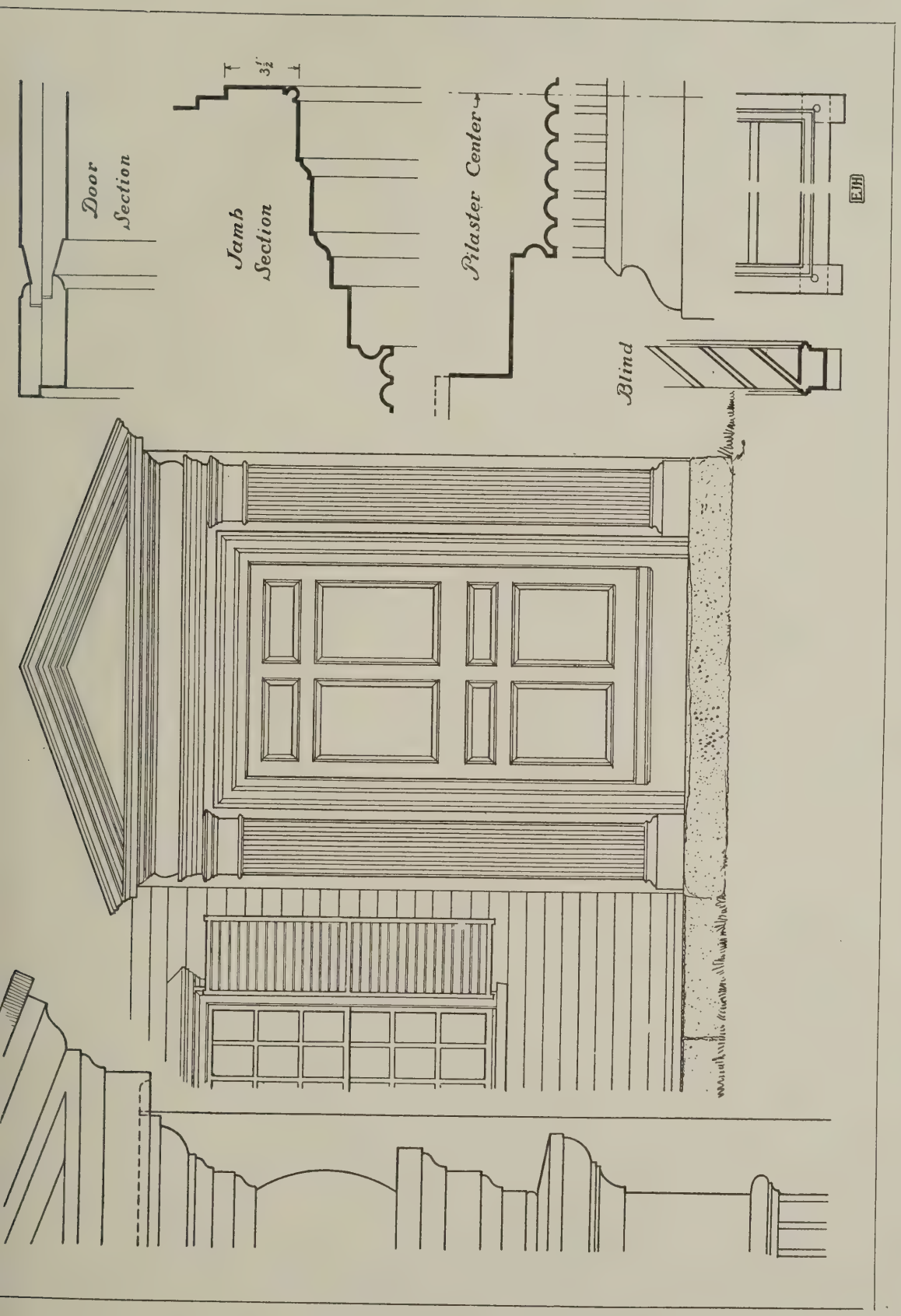
The lease was granted on December 8, 1914, to date from June 24 of that year, and it was determined by notice in accordance with its terms, but while it was still running in the month of April, 1916, it was (according to plaintiff's case) agreed that in consideration of plaintiff making a reduction of £100 in the yearly rental the defendant would undertake to relieve the plaintiff of all responsibility and liability in respect of repairs for which he was liable under covenant in his original lease. Plaintiff said it was an implied term of the agreement that the defendant should, in addition to his liability under the covenants of his lease, assume the liability of the plaintiff under the original lease in relation to certain outside repairs, in consideration of reduction of rent.

The questions as to whether the letters which had passed between the parties constituted an agreement as alleged, and whether the defendant had accepted them in that light, and was therefore bound by them, were first argued by counsel, by whom the whole of the correspondence was read.

Sir Francis Newbolt on both points found in favour of the Earl of Rosslyn, to whom he awarded costs of the day.

Details of American Colonial Architecture. 4.—Wellington House, near Waltham, Mass., U.S.A.





Under the Georgian influence of England, domestic architecture in America took on a high quality of directness and sincerity of expression. The sweetly simple "Wellington House," near Waltham, Mass., is a well-preserved example of small-scale building of the period. Tradition asserts, it is stated in the "Architectural Forum" (from which our reproductions are taken) that the lumber for both frame and finish of the house was cut and worked into form on the property; but nothing is known of the designer whose eye and hand determined the scale and sequence of details, which possess individuality though conforming to a type. The above very excellent measured drawings are by Mr. Edwin J. Hipkiss, of the Fine Arts Museum, Boston.

Book Notices

Objective History

Manuals of history in use in the schools have been commonly conceived in one or two very distinct and about equally desolating styles of sterility. There is the Kings—and—Chronicles, or biographical mode, in which the child is tortured with inconceivably dull accounts of the births, lives, and characters of monarchs and their myrmidons. That method is nearly obsolete. A more rational but not much less dreary medium is that in which dead issues and exploded policies are discussed as if they were matters of supreme moment to-day. No doubt fragments of biography have as much evolutionary value as disquisitions on the policies of the past, but children "of school age," as the official phrase goes, are interested by neither the one method nor the other. No interest, no education. A book that secures the interest of the pupil is thereby impressive and hence educational. Children are, without doubt, intensely interested in what Mr. and Mrs. Quennell felicitously call "Everyday Things." Their minds are at first chiefly objective; but that they reflect on them in a rudimentary way is evident from the copious questioning with which all parents are familiar.

The prevalence of this spirit of inquiry ought long ago to have conveyed a hint to educationists. No doubt it did; but until now the writers of school-books have been slow to act on the theory that a history-manual having for its main theme the objects in which children of a larger as well as those of a smaller growth are perennially and insatiably interested would be certain to succeed.

Mr. and Mrs. Quennell's "History of Everyday Things in England" meets this requirement so admirably that its appearance in a new edition, in which the two volumes of which it originally consisted are bound together, will, one is perfectly certain, be the forerunner of many further issues. The book has already become a classic, in high favour in the schools. For this success, full credit must be given to the illustrations in which the book abounds. They are of very special character. In books like the illustrated edition of J. R. Green's "Short History," and Dr. Traill's "Social England," hundreds of authentic pictures are reproduced from various valuable collections, but valuable and interesting as they are to the antiquarian, they do not seize the imagination of the young. There is something rather repellent in their archaic crudity. Mrs. Quennell has based her drawings on correct models, but she has imparted to them in every instance a vivifying touch—has clothed the dry bones and made them live. For example, typical halls of half a dozen different centuries have been drawn with architectural correctitude by Mr. C. H. B. Quennell; but how barren of interest they would be for the ordinary pupil if Mrs. Quennell had not peopled them with men, women, and children, "in their habits as they lived," and following characteristic occupations. A town house of the eighteenth century (here shown by courtesy of the publishers) is a fair example of Mrs. Quennell's happy knack of lending human interest and animation to her husband's architectural drawings. It would seem that the artists had conceived the happy idea of doing for typical English buildings what, on a different plane and in the grand manner, Mr. William Walcot has done for classical remains—restored and reanimated them, made them palpitate with living interest. That is the great service that Mr. and Mrs. Quennell are rendering to education—making the dry bones live. Incidentally, they are popularising the study of architecture, which is now demonstrably an effectual medium of education.

A History of Everyday Things in England. Written and Illustrated by Marjorie and C. H. B. Quennell. Published by B. T. Batsford, Ltd., London.

AN EIGHTEENTH-CENTURY TOWN HOUSE.

(From "A History of Everyday Things," by M. and C. H. B. Quennell.)

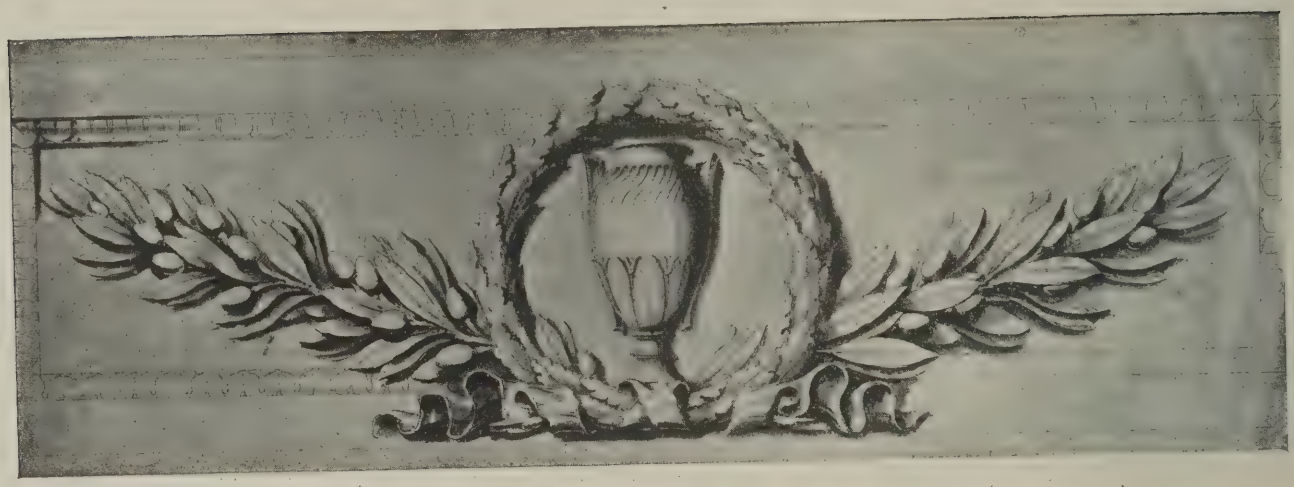
The English Interior

Internal decoration probably began with "the spattering of devices" on roughly plastered walls and the seemly disposition of the beams of ceilings; "but by the middle of the fifteenth century, when the earliest of the interiors figured in this book were carried out, a type had been evolved which was remarkably consistent, free from affectation, and delightful in its own untutored way." The open-timber roof, with its opportunities for that splendid carpentry and carved woodwork for which English craftsmen have been always supreme, did not attempt to disguise structural necessities, but expressed them in beautiful forms. Timber quarterings are freely exposed in many an existing manor-house, and the author instances and illustrates Great Dixter, in Sussex, and Stoke-by-Nayland, in Suffolk, as examples. Because of their splendid carpentry and noble effect, "halls" in the feudal sense—that is, in the grand manner—continued to be built, it would seem, long after their real functions had ceased. Gradually, however, the "hall," being no longer required for the feeding of an army of retainers, made way for the dining-room and withdrawing-room of sufficient size for the entertainment of the family and occasional guests; and then, naturally, for these smaller rooms, the open-timber roof was superseded by the flat or curved ceiling.

In Tudor times the bay window and the oriel assumed much prominence, lending character to the interior as well as to the exterior: "They necessitated the introduction of a certain amount of stonework into the finished interior, and the arches by means of which they open into the room were often richly moulded and wrought. Masonry was also exposed around door and window openings in general, and was invariably used for chimneypieces; but, with the exception of such uses of stonework as were called for structurally, little decorative detail was attempted that could not be carried out in oak and plaster, coloured originally no doubt, but quite satisfying in the plain state in which most of it is found to-day."

Panelling, Mr. Stratton supposes, was not at first carried up to the full height of the room. Instances to the contrary are commonly found to be the result of later additions, sometimes made with contemporary panelling from another part of the house. Mr. Stratton notes that "if tapestry was used, the wainscot was kept quite low and in a subordinate position, for, as the rooms were seldom lofty, a sufficient height could not otherwise be obtained between the panelling and the ceiling for a satisfactory display of the tapestry." This explanation rather obscures the real point—that where tapestry was used panelling was not wanted, except in the form of wainscoting.

In the days of "Eliza and our James," decoration grew exuberant. During the former reign corridors were increasingly used to bring unity to the planning, while "the complete abandonment of the custom of dining in the great hall, the provision of a long gallery upon an upper floor, and the introduction of a stately staircase planned in straight flights and occupying a prominent position, all materially affected



DESIGN FOR PANEL OVER THE DOORS OF THE ROYAL ACADEMY (SOMERSET HOUSE).

(From the original drawing by Sir William Chambers in Sir John Soane's Museum.)

the internal arrangement of the plan and the treatment of the various rooms." Sometimes the corridor is really a gallery, elaborately decorated and furnished, and displaying the ancestral portraits and suits of armour. It was then that the staircase began to assume decorative importance.

Late Stuart interiors are considered in Part II. of the text, which deals largely, of course, with the colossal but somewhat elusive figure of Inigo Jones, whose influence is much less difficult to trace than his actual work. The interior at Raynham Hall, Norfolk, seems, however, a safe attribution, allowance being duly made for the intrusion of a later hand. Kent worked there, but probably followed closely in the footsteps of the master. Inigo Jones "realised his finest schemes of interior decoration in the State rooms at the Earl of Pembroke's place at Wilton, near Salisbury." Due note is taken of Jones's employment of Rubens to paint the ceiling at the banqueting hall in Whitehall, and thereby revealing to English eyes a new field for decorative display; while his preference for *stucco duro* over wood-panelling is duly recorded. Wren, however, preferred the woodwork, and restored it to favour. Under him a national style of decoration arose, and "certain it is that this second vernacular style long flourished, and that it met the needs of the people in a perfectly natural manner, free from theatrical effects and relying solely upon straightforward design and excellence in craftsmanship." Wren's influence on the interior is discussed at considerable length, but always judicially; and the part that Grinling Gibbons and his helpers played in it is duly recognised.

Part III. deals with Georgian interiors, and here the philosophical method of the author comes into full play, the greater abundance and clearer authenticity of the data giving free scope and firm ground for comparison and generalisation. It is emphatically a strong chapter, rich in interest as an historical narrative, and sound in its deductions. A certain tentativeness and dubiety were proper to the preceding chapters, but it is permissible to become more positive in dealing with the moderns —Wren, Gibbs, Hawksmoor, Colin Campbell, William Kent, Thomas Ripley, Rysbrack, Isaac Ware, Abraham Swan, James Paine, Carr of York, Wood of Bath, Sir Robert Taylor, and Sir William Chambers. To Robert and James Adam and their satellites he devotes an amount of space that does not go beyond the just bounds of "proportional representation" as governed by the scale on which the book is planned.

Part IV., the final section of the book, considers in detail the principal features of the English interior—wall treatment, decoration in colour, ceilings, fireplaces, and chimneypieces, doors and doorways, staircases—and under each of these heads the author has something luminous to say.

It is easy to understand that the production of this large and beautiful book involved many years of strenuous patient labour. To say that it was w the while of an architect and schola Mr. Arthur Stratton's standing to d cate so much of his time and energ this service is to proclaim the boo splendid contribution to the real litera of architecture.

"The English Interior. A Review of the Decor of English Homes from the Tudor times t XIXth Century." By Arthur Stratton, Arch F.S.A., F.R.I.B.A. London: B. T. Batsford, 94, High Holborn. Copious'y Illustrated. 4 guineas net.

LATE EIGHTEENTH-CENTURY DOORWAY FROM A HOUSE IN LONDON.

(From "The English Interior," by Arthur Stratton, F.S.A., F.R.I.B.A.)

Architecture of the Late Eighteenth Century. 8.—The Library, Sledmere House, Yorkshire

Sledmere House was erected by Sir Christopher Sykes, father of Sir Tatton Sykes. The name of the architect, according to Mr. Arthur Stratton (from whose great work on "The English Interior" our plate is reproduced), is not recorded, but Sir Christopher himself is said to have inspired the design. Unhappily, the house was destroyed by fire in 1911. The library was 155 ft. in length and extended the whole width of the house, with windows at each end.

Book Notices

(Continued)

Storage Batteries for Electrical Energy

Although storage batteries are, strictly speaking, the province of the electrical engineer, the results obtained from the batteries are so definitely influenced by the question of situation that architects, especially those who specialise in exposed country-houses, bungalows, and shooting-boxes, should have at least a good general knowledge of their installation and management. As a rule, writers assume a familiarity with elementary electrical details which is often unfair to the non-technical user, and terms such as "sulphation," "hydration," "short circuit," "excessive overcharging," etc., almost demand a glossary of definitions. In the book under review efforts have been made to use the plainest possible language in giving a condensed review of the essential rudimentary points with which anyone undertaking the operation and management of a storage battery requires to become familiar. The author shows that to manage a battery effectively it is not necessary to dip deeply into chemistry or complicated problems.

The A.B.C. of Storage Battery Management. By Ernest C. McKinnon, A.M.I.E.E. Price 3/6 net. Electrical Press, Ltd., 13-16, Fisher Street, Southampton Row, London, W.C.1.

Amateur American Architects

It is now very generally recognised that American buildings that have survived from the eighteenth century are usually worth study. This fact is emphasised in the article by Mr. Harold Donaldson Eberlein, to which the first place is given in the December issue of "The Architectural Review." Mr. Eberlein recounts the architectural achievements of "Two Philadelphia Architects of the Georgian Period—Mr. Andrew Hamilton, who was a barrister, and Dr. John Kearsley, who was even more busy as a doctor. Both were, moreover, deeply immersed in public affairs, and yet they both found time to do some very serious work in architecture, and to enter upon a lamentable feud about the building of the State House at Pennsylvania. Interesting illustrations of the State House, and of Christ's Church, and St. Peter's, Philadelphia, accompany an article which is of peculiar interest for its indication of the influence of English eighteenth century architecture on temporary design in America.

Other important features of the "review" may be usefully indicated. A photographic view and a plan of the Belgian memorial (by M. Victor Rousseau and Sir Reginald Blomfield, R.A.), recently unveiled on the Thames Embankment, illustrate a brief appreciation of the event. The section on "Current Architecture" is occupied with a description and several views and plans of Victoria House, Kingsway, of which the architects are Messrs. Trehearne and Norman. A remarkable series of articles on "Decoration and Furniture from the Restoration to the Regency," Mr. Ingle-Goodison, who had hitherto studied them all himself, has induced an eminent specialist, Miss M. Jourdain, to contribute one on "English Furniture Made by George Jack, a London cabinet-maker.

A special notice of the exhibition of village schools is illustrated with five examples of premiated designs. Photographic views and details and measured drawings of the Town Hall, Wallington, Oxon., illustrate this month's "Practical Exemplar of Architecture," and Mr. Arthur Stratton's monumental work on "The English Interior" is the subject of a scholarly and critical review.

The "Architectural Review," December, 1920. Price 2/6. London: Messrs. Technical Journals, Ltd., 27-9, Tothill Street, Westminster, S.W.1.

Enquiries Answered

Resistance of Wood Posts and Struts.

W. P. N. writes: "In working out the safe load on a 4" × 4" fir post I had occasion to compare same with a similar post composed of two 4" × 2" timbers bolted together, with this result:—

Dimensions of Post with flat or fixed ends.	Safe loads in lb. Factor of safety 6.		
	Rankine's Formula.	Straight line form: (American)	Johnson's form: (American)
Two 4" x 2" bolted	4,440	7,094	6,048
4 x 4 Solid	9,306	8,213	8,021
(both 4'0" long)			

"As you will note there is considerable variation, yet the formulæ given are supposed to be based on exhaustive tests. Below I give the various formulæ and the values for the 'constants' and the unit crushing stress of the material used in the above. Can any of your contributors explain the wide divergence in results of the different formulæ?

Rankine's Formula.	Straight Line Formula.	Johnson's Formula.
For fir posts.		
$p = \frac{f}{1 + a\frac{l^2}{r^2}}$	$p = s - \frac{sl}{100d}$	$p = s\frac{700+15g}{700+15g+g^2}$
$f = 5{,}500$ lbs. per sq in	s = ultimate compressive strength of material in lbs. per sq. in., taken as 3 500	$g = \frac{l}{d}$
$r^2 = \frac{bd^3}{12} \times \frac{1}{bd} = \frac{d^2}{12}$		$s = 3{,}500$
$a = \frac{1}{3000}$		
l = length in ins.	d = dimension of least side of post	
p = unit crippling stress in lbs. per sq. in.		

"I should also be glad of information on the following:—In a stud partition 12' 0" high composed of 4" × 2" studs, heads and sills (studs 16" centres) and 4" × 2" intermediate horizontals spaced about 4' 0" centres, would it be correct to take the length of the stud at 4' 0" for the purpose of calculating the crushing stress of one of the studs, having regard to the lateral support given by the intermediate horizontals?"

—The question of accurately determining the resistance of wood posts and struts is one of the most difficult problems in construction, and owing to the variable nature of the material it seems impracticable to arrive at a formula giving a very accurate result. While the well known formulæ are based upon the results of actual tests and experiments, they differ greatly in results owing to this variation of the material and the conditions of the experiment. With regard to the stud partition, it would not be a correct assumption to take the length of the studs as 4'0" because they have lateral support one way only and no safeguard against buckling in their 12'. 0" length the reverse way.

W. S. B.

Builders' Benevolent Institution Dinner

The sixty-eighth annual dinner of the Builders' Benevolent Institution was held at the Edward VII. Rooms, Hotel Victoria, London, on Thursday night last week, the president, Mr. Walter Lawrence, J.P., occupying the chair.

Proposing the toast of the "Builders' Benevolent Institution and its President," Mr. Roland B. Chessum briefly touched upon the objects of the Institution—which was founded seventy-four years ago—and said that there was an old saying that to give was to live, and also quoted "You never miss what you give away." He was sorry to see from the list of contributions that a large amount of the support had come from those who were not master-builders. He asked the master-builder to live up to his responsibilities.

The President, responding, said that he very much appreciated the way in which contributors had rallied round him that year. They had placed him in a proud position that evening by having a list larger than ever before placed before a president, though let them not for a moment think that it was his popularity which had done that.

Continuing, he said that the architects and surveyors had always been good supporters of the Institution. Perhaps it was because they brought so many builders to penury! The manufacturers, too, were good supporters. Maybe that was because they had charged more for their goods than they should have done, and so they also had helped to cause penury!

Concluding, he agreed with Mr. Chessum that it was the builders' duty to look after their own poor.

Mr. F. J. Gayer, president of the London Master Builders' Association, proposed the toast of "The Architects and Surveyors," and said that he thought the importance of the architect was not sufficiently appreciated. It was surprising how much work there was in which the client thought he could dispense with him. He thought that much of the litigation in the Law Courts would be dispensed with if architects were employed more often.

Mr. Wm. Woodward, F.R.I.B.A., responding, spoke very strongly against Dr. Addison, a surgeon, being called in to carry on a business—that of building—which required the greatest possible skill and experience. He also expressed indignation at the embargo on so-called "luxury" work.

Mr. Guy M. Nicholson, F.S.I., responded for the Surveyors.

Mr. R. Dudley Bartlett proposed "The Vice-Presidents, Trustees, Committee, and Stewards," and Mr. John T. Bolding, who has been on the committee for the long period of over fifty years, responded.

The toast of "The Visitors" was put by Mr. Ben Carter, and responded to by Mr. Harry Gordon, F.R.I.B.A., who said that they were all on the sea of officialism, and it was becoming rougher and rougher every day. He foresaw the day when they would be able to go into His Majesty's Stationery Office and purchase a book of designs for anything they liked, with full-sized details 6d. extra.

During the evening it was announced that, with the contributions received or promised, they had a total for the year of £2,125 17s., which was a record, the next highest being £1,400.

The Concrete Institute: Presidential Addres

By E. FIANDER ETCHELLS, A.M.Inst.C.E.

AT Dennison House, on Thursday evening last, Mr. Etchells said that after casting about for a subject for his address he had decided to give a few odd notes on matters connected with the concrete industry. It appeared to be the fixed idea with a large number of people that concrete was a new discovery which had become very useful in the late war for the construction of concrete trenches, pillar-boxes, and so forth. This was, of course, a particularly erroneous notion. Concrete had been known from very early times. There was abundance of evidence that its use was known to the Egyptians 4,000 years ago, examples of their use of underwater cement still remaining. The Carthagenians also had constructed a great concrete barrage, some of which was still standing, while a huge portion which had broken away still lay unshattered as it fell, proving the lasting quality of the rock cement which had been utilised. Again, the Romans had a wide knowledge of hydraulic cement, and the dome of the Pantheon was perhaps the largest and finest of the examples of concrete work which had been handed down to us from ancient times. Evidence also was not wanting of the use of concrete in buildings of ancient Mexico and Peru. Neither was the idea of reinforcing concrete a new one, the Romans having used a bronze reinforcing agent in the construction of the Frigidarium.

Wren's use of Reinforcement

During the Middle Ages there was a long gap in the records of the use of reinforced concrete, though it was of interest that in the construction of St. Paul's Cathedral Sir Christopher Wren had made use of embedded chains, which on a recent examination were found to be in good condition. It was also stated that a system of reinforcing by means of tree trunks had also been used in the Great Wall of China. He put forward these few notes in the hope that it would draw from other members evidence of the still earlier use of concrete; also he wished to correct the impression that concrete was a thing discovered by our principal enemy in the late war.

Next he had a few remarks to make on the subject of bricks. He dealt humorously with the earliest recorded strike of the brickmakers against their taskmaster Pharaoh, and from this pointed the moral of goodwill between man and man and particularly between employer and employed. It was extremely desirable to increase output and to do this goodwill must exist. Progress in industry depended very much on goodwill, which was as inevitable a law as that other one—the survival of the fittest.

There was a long period between the making of the first sun-dried bricks and the time when bricks were reinforced with straw. Still more extended was the period from the making of straw bricks to the advent of the hollow brick. There had been a tendency in the United States of recent years towards the general use of these hollow bricks. Whilst on this subject he desired to point out that the use of the word "tile" for these bricks was misleading and inaccurate. These hollow bricks permitted a great saving in raw material. In the States a brick 12 in. by 8 in. by 6 in. was used. A rather larger brick might be adopted here—say 13½ in. by 9 in. by 6 in.—which would make for a reduction of the jointing area as compared with ordinary bricks. The lightness of such bricks would facilitate transport. Recently the battle had been between the hollow and the solid brick; in future it would be, he thought, between bricks and concrete. In the majority of the hollow bricks used in America the partitions were much too thin. In view of the unsettled state of industry it was difficult to make comparisons of cost.

Mystery Compounds

The President next turned his attention to what he termed "mystery compounds," patent substances warranted to do special things. Some were simply and easily analysed, others were complex and difficult of analysis. Some cost hundreds of pounds to invent and thousands to put on the market, and were really scientific productions. Self-sacrifice could not be relied upon to produce scientific discoveries, and in most cases it would be unfair to the man who had financed it to publish details of commercial discoveries. If the State would finance research it might be different. But the State had not up to the present been kind to science. The funds available for scientific and industrial research were utterly inadequate. If research were properly encouraged by the State development would very quickly follow. Cement was of such a complex character that it had never yielded up its secrets, and possibly never would. Perhaps there was nothing in industry of which so much remained to be learnt as concrete block work. It was a science which was yet quite in its infancy, and much care must be used in deciding types of construction. Scarcity of labour and material had modified the methods formerly employed in building. We could not foretell now what would be the views of the architect of future generations. In the olden times castles and other buildings of an extremely permanent character were put up. Our views as to buildings had now changed and we built for time and not eternity; and we were also building against time, which made us look more kindly on temporary materials. In his opinion the dearth of houses was not entirely due to the recent war; it dated back to the Finance Act of 1909, which, by stopping speculative building, had caused builders to go out of business, which in its turn produced unemployment in the building industry. Many of the workers left the industry for other employment, and to-day there were far fewer bricklayers and carpenters employed than in 1909. This deficiency in labour and bricks had hastened the development of the concrete block industry.

As to faults in concrete blocks, cases which had occurred in which such blocks were very porous were not due to any inherent fault of the concrete, but to the improper manufacture of the block.

On the subject of cracks developing in concrete blocks, the speaker ascribed this to blocks being used before being allowed to get properly hard. Four days was quite an insufficient time to elapse between the making and using of concrete blocks. Cracks developed from several causes, s as insufficient foundations, variations the loads taken by various parts, bonding, and too many straight line joi and expansion and contraction owing temperature changes. Special reg must be paid to the placing of windo not only from an æsthetic point of vi but from the standpoint of strengt construction. The strains on blocks tween windows being stronger, the being so small as compared with the wall where the windows were not, the liability to crack the greater. Mat blocks were especially essential for positions, for "green" concrete bl would be certain to crack.

The President gave a list of tw three essentials to be observed in the tion of concrete-block buildings, thes cluding economy in the initial cost, tenance, materials and transporta adaptability, pleasing appearance; ance to fire, damp, and rain; freedom draughts and from condensation o inner walls; low thermo-conduc making for coolness in summer warmth in winter; suitability fo driving in of picture nails; and gene liability. Attention must also be gi the possibility of preparing a large qu of standard blocks. With ordinary land cement blocks there were methods of preventing the water through. First, a continuous ai second, a sheet of impervious materi as bitumen or even sheet steel; thi use of waterproofing material mixe the concrete (Mr. Etchells prefers material rather than dry powder, former, he thinks, mixes better) fourth, dense concrete made so as to pervious to moisture. There was culty about the latter, which was t one which relied on the concrete a prevent water entering.

Finally, the President had a fev to say about the work of the In His principal point was that the c the membership would be much e by the compulsory test of engineeri cation to which new members must A class of licentiates, to whicl tradesmen responsible for sup work would be eligible, might b duced. This led to a strongly e view as to the need for proper me training in this supervising class o men. Much faulty construction h due in the past to ignorance of mentary mechanics of concrete on of such people, which caused a pression that concrete work was

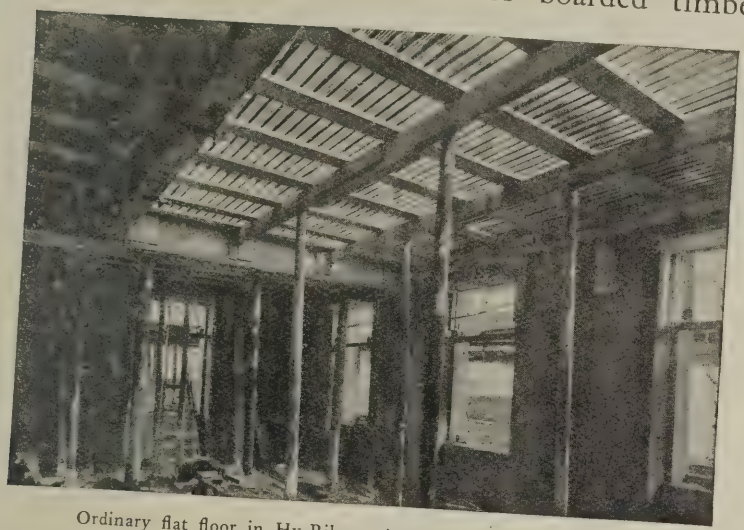
Discussion

Sir H. Tanner moved a vote of the President. In the course c marks, Sir Henry spoke bitterly o sent state of the building trade, s shortage was not so much in bri bricklayers, while those they could not much enamoured of work. plained also that the embargo on in London was driving men t vinces. Men liked to work ove went where they could do so.

Mr. H. D. Searles-Wood, F. in seconding, hoped that the d would be more lively in the fu they had been in the past.

HY-RIB as Centering for CONCRETE FLOORS

Means rapid construction at low cost and elimination of boarded timber shuttering.



Ordinary flat floor in Hy-Rib, ready for concrete being poured.
A minimum propping only. No close-boarded shuttering necessary.

HY-RIB is used as both centering and reinforcement with any type of beam—reinforced concrete, steel or wood.

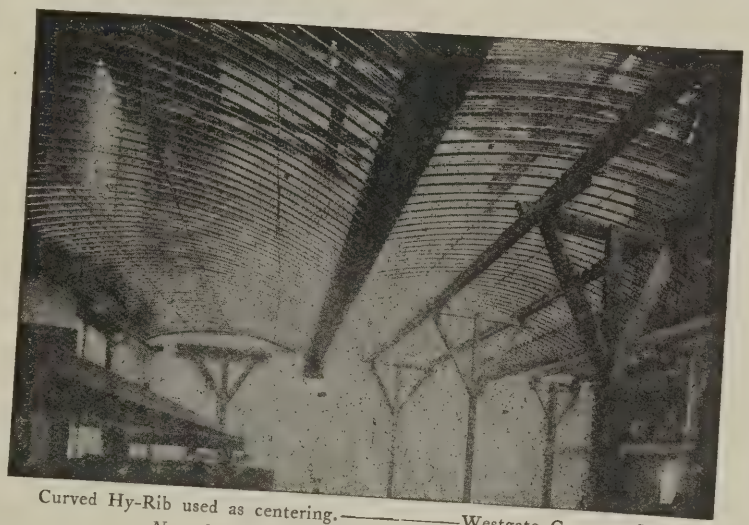
The HY-RIB is laid on the beams, then the concrete may be poured on immediately from above. When set, plaster is applied directly to the under surface.

No forms or false-work necessary, only some temporary props.

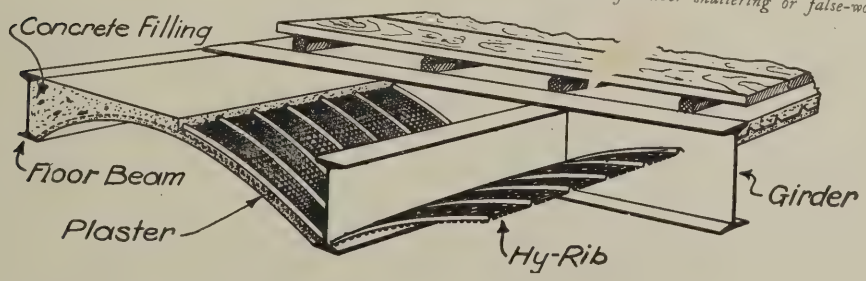
FOR heavy loading as in warehouses, granaries, mills, etc., curved HY-RIB makes arched floors of great strength and rigidity.

Curving and cutting to length (if desired) is done at our works. Simply lay the sheets between the beams, pour on the concrete and the floor is made.

The wet concrete works through the mesh sufficiently to give a perfect key for plastering the underside.



Curved Hy-Rib used as centering.——————Westgate Common Mills.
Note the absence of timber shuttering or false-work.



Our new "HY-RIB HANDBOOK" is full of drawings, photos and practical information. Write to-day for your copy (post free).

THE TRUSSED CONCRETE STEEL CO., LTD.,
52, Truscon House, Cranley Gardens, South Kensington, S.W.7

To

Architects and Builders

NOTICE.

IN the issue of "The Builder" for October 1st last (p. 377) appeared a descriptive article of the "Express" Patent Water Heater and its construction.

The reason of its success is a simple one: "Efficiency," backed up with our Technical Adviser, Mr. E. Jackson. We are not satisfied by merely posting a circular and leaving the technical points to be discussed without expert advice. There is a life's experience behind the "Express," and those interested should avail themselves of the long years of experience, and have the system fully explained; this can be done only by our Technical Adviser (the inventor).

The "Express" Water Heater for Housing Schemes is simple in construction, internal parts brazed and made to last, inexpensive, and can be installed at half the cost of any other system.

Gives 20 gallons of water every 15 minutes at a temperature of 120°. Self-contained. Be wise and be advised.

Write Technical Department,

MARTIN ENGINEERING CO. Ltd.

SOLE PATENTEES AND MAKERS.

SHOW ROOMS:

49 Theobald's Road
London, W.C.1.

Telephone: HOLBORN 4896.

Telegrams: "INSTABOIL, LONDON."

The Week's News

Carlton Housing.

The Ministry of Health have sanctioned loans amounting to £33,404 for housing.

Stamford Housing Scheme.

Barvack Stamford R.D.C. have decided to erect twenty-houses.

Housing at Okehampton.

Okehampton T.C. have decided to erect hirty-one houses.

Ammanford Houses.

Ammanford U.D.C. have decided to rect forty houses.

Private Building at Blackpool.

Plans have been approved for the erection f sixty four new houses.

Tiverton Rural Housing.

Tiverton U.D.C. have decided to apply or a further housing loan of £20,000.

Rothamsted Experimental Station.

It is proposed to extend the laboratories the Rothamsted Experimental Station, arpenden.

Stanley Housing.

The U.D.C. have decided to apply for loan of £6,600 towards the cost of the uth Stanley housing scheme.

Turton Housing Scheme.

The U.D.C. have resolved to apply to e Ministry of Health for sanction to rrow £59,922 for the erection of houses, d £6,580 for sewerage and road work.

Bradford Moor Housing.

The housing scheme designed by ssrs. W. J. Morley and Son, of Brad- d, architects, and now finally approved the Housing Commissioner, provides 604 houses of varying types.

ilding Employers and Professor of Architecture Fund.

Over £1,168 has been raised by the nchester, Salford, and District Build- Trades Employers' Association, and been placed to the account of the Pro- orship of Architecture fund.

Sleaford Super Theatre.

new super cinema, costing over ,000, has recently been opened at Slea- , Lincolnshire. The contractors were srs. Patterson and Sons, of Sleaford, the joint architects, Messrs. Geo. E. ge, Southport, and H. A. Thomas, rpool.

Bellingham Housing.

e London County Council have made ngements for the construction in con- of 211 cottages on the first section of Bellingham estate. In the House of mons Dr. Addison stated that the total ge of the housing estate of the London ty Council at Bellingham was 294¼

First English Playhouse.

tablet, marking the site of "The tre," the first building erected in Eng- solely for the production of stage , has been unveiled at 86-88, Curtain , Shoreditch. "The Theatre" was d in 1576 of wood at a cost of about In this theatre Shakespeare made rst appearance, both as actor and atist.

Glasgow Housing Schemes.

Peter Fyfe, Director of Housing, of ow, reports that the erection of new houses has to be faced, and y twelve sites have been se- for the erection of 4,516 s. In addition, to meet urgent the erection of 500 temporary houses has been authorised, and elve sites 352 houses have been erected or are in process of erection, of which over 100 are occupied.

Rebuilding of Mezieres.

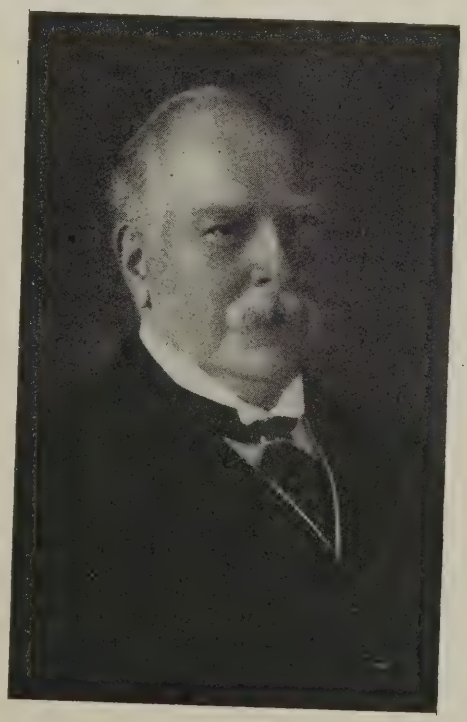
The French War Charities Society has collected £10,000, and is shortly to start the building of houses in Mezieres (Manchester's adopted town) in the "Quartier Manchester," of which the chief thoroughfare will be the "Rue Tom Fox." M. Lemasson, architect-in-chief of reconstruction of the Department of the Ardennes, and M. Jamotte, surveyor of Mezieres, have been in Manchester consulting upon the type of houses to be built. They found those on the Gorton estate suitable to the needs of their own artisans, and the type will be slightly adapted for Mezieres.

New Textile Department at Huddersfield Technical College.

The new textile department at Huddersfield Technical College is practically completed. The bulk of the machines installed are gifts. Extensive alterations have been made to the building. The interior, re-planned, provides accommodation both for experimental workshops and lecture rooms. On the first floor are the wet finishing plant, the boiler, and the blending and teazing plants. Upstairs is the complete plant, including machines for woollen and worsted manufacture. This provides for all of the processes for the manufacture of woollens from the treatment of raw material to the finished cloth, and in the case of worsteds for all the processes beginning with the tops. The dry-finishing department is upstairs. There are seven power-looms installed, as well as the many pattern-looms transferred from the old premises, and the equipment is completed by the installation of a test laboratory.

Guildford Building Schemes.

An arcade, shops, winter gardens, a café, offices, and a concert hall and picture playhouse are being erected at Guildford from the designs of Mr. Frederick J. Hodgson, architect. The buildings, which will cover a site with a 65 ft. frontage and 300 ft. deep in the centre of High Street, are composed of brick walls, reinforced floors, roofs with supporting beams and piers, by the Improved Twisted Steel Bar Company, Ltd., the hot water heating, ventilation and domestic hot-water heating being supplied by Messrs. C. P. Kinnell and Co., Ltd. The playhouse will hold over 1,000 persons. Mr. Hodgson has just completed for the Playhouse Company (Guildford Picture Playhouse and Winter Gardens, Ltd.) ten cottages in pairs, containing living room, kitchen, larder, coals, and w.c. on the ground floor, three bedrooms and bathroom on the first floor. The cottages are built of bricks, covered with rough-cast, have Crittalls built in metal casements, and are roofed with concrete roofing tiles, made by the Redhill Tile Company of Redhill, from a Vickers machine. The builders were Messrs. T. Swayne and Son, of Stoke Road, Guildford, and the cost, including drainage, fencing, and all extras complete, £679, on which a subsidy of £160 was allowed (as the buildings were started before the increased subsidy was granted). This brings the cost down to £519 all complete, and they are let at 15s. per week, inclusive. The cottages were built in agreement with the Housing Committee of the Guildford Town Council as a condition for permission to erect the picture playhouse, and the cottages were erected in three months and occupied. At the present time the same contractors are erecting one pair of these cottages under contract for £780 each, on which a subsidy of £240 will be obtained, making the total cost £540 per cottage.



THE LATE SIR WILLIAM MATHER.

Obituary

Mr. James Watson.

The death has occurred of Mr. James Watson, of Scarborough, builder, at the age of eighty-one.

Mr. C. Dennis.

The death has occurred of Mr. Cammack Dennis, of Agincourt, Manchester Road, Bury, head of the firm of Messrs. C. Dennis and Son. Mr. Dennis was well known as the builder of mill chimneys, some of the tallest shafts in the country having been erected under his direction.

Mr. James Strong.

Mr. James Strong, architect, has died at Newton, Chester, at the age of fifty-eight. He served his articles with Mr. James Douglas, of Chester, and afterwards went to the London office of Messrs. George and Peter. Later, he became associated with Colonel Walker, of Liverpool, and the firm eventually became Walker and Strong.

Sir William Mather.

It is with the deepest regret that we have to record the death of the Right Honorable Sir William Mather, at Bramble Hill Lodge, New Forest, at the age of eighty-two. He was a Member of Parliament for South Salford from 1885 to 1886; he represented the Gorton Division of Lancashire from 1889 to 1895, and the Rossendale Division from 1900 to 1904. He was knighted in 1902 and made a Privy Councillor in 1910. During his business career Sir William, who in 1906 formed the Indented Bar and Concrete Engineering Company, Ltd., was one of the leaders of the industrial world. Besides his activities as a Member of Parliament, Sir William's public services included several years' membership of the Salford School Board and of the Salford Town Council. He was a member of the Institute of Civil Engineers, Institute of Mechanical Engineers, and the Iron and Steel Institute.

Correspondence

To the Editors of THE ARCHITECTS' JOURNAL.

Central Heating for Small Houses.

SIRS,—We have just seen the letter by Mr. Clarence M. Lyman in your issue of November 24, and as he appears to think that our letter in your issue of November 3 might possibly give rise to some misunderstanding, we would like to say at once that Mr. Lyman has no connection with this concern or with the products we are marketing. When we wrote our letter we had not even the pleasure of his acquaintance.

In the discussion that followed Mr. Lyman's lecture some of the doubts raised by the speakers were similar to those which we are daily receiving from prospective clients, and which are acknowledged to be baseless after installation of the system. We therefore thought that we were justified in writing a letter to dispel any misunderstanding the discussion might have given rise to in the minds of your readers.

We much regret if our previous letter should have created the impression in anybody's mind that Mr. Lyman was in any way associated with this company.

CECIL SANDFORD-THOMPSON,
The Monitor Heating Company of Great Britain.

Messrs. Higgs and Hill's Staff Dinner

Messrs. Higgs and Hill, Ltd., of Lambeth, have recently given a dinner to their staff at the Holborn Restaurant, Mr. William Higgs presiding. One's impression of the gathering was that in this firm the old traditions still survive—the old craft spirit and pride in laying a stone or carving a newel, and the deep satisfaction which can come only from the knowledge of work well done and wages well earned.

The chairman had cause to be proud when he referred to the long service of many of the employees, numbers of whom have been with the firm for the long period of over fifty years, and the job is often handed down from father to son.

Mr. C. H. Dewey proposed "The Prosperity of the Craft," and humorously belittled the work done by the ancient builders compared with the fine record of Higgs and Hill. Had the Parthenon been erected by them it would have still been standing.

Mr. Ernest J. Brown responded, and referred to the changed relations between master and man as compared with those of a generation ago.

Mr. J. Cameron proposed the toast of "The Architects and Surveyors," and Mr. F. E. Williams responded, while Mr. H. J. West responded for the surveyors.

Edinburgh Architectural Association

The first lecture of the season has been given in the College of Art Hall by Mr. Henry F. Kerr, A.R.I.B.A., F.S.A.Scot., on "The Houses of Scotland from Castellated to Renaissance Times." Attention was first called to the pre-historic dwellings of man in caves, such as those at Archerfield and Gilmerton, and to houses in the trees of the forest, each with its own means of defence against weather, wild beasts, and man.

When the value of defence by water was realised, lake dwellings were multiplied, and in castellated times were translated into stone in the towers and great castles. The strange circular castles called "brochs," built of dry stones, were described as special to Scotland. The plans and defences of the towers and castles, with their moats, forecourts and courtyards, were illustrated by existing examples—Coxton, Craigmillar, Muchalls, Bothwell, and Stirling.

The too common error of thinking that Scotland was a poverty-stricken land was disproved by reference to the great and beautiful buildings built and rebuilt in the form of castles, churches, abbeys, etc. The chief portion of Mr. Kerr's lecture was devoted to the unfortified houses of all sizes, such as Falkland Palace, Fordel, Crathes, and Fyvie Castles, and the houses of Culross, Winton, Binns, Pitreavie, and Craigievar.

A special point was made of the influence of Sir William Bruce on architectural design, as traced in Holyrood Palace, Kinross House, Craighall, Drumlanrig, Hopetoun, and Hamilton, in all of which are evident some of the vigour and masculine beauty we see in the early Renaissance from his hands. The last phase of design Mr. Kerr referred to was that of the Adam period in the designs of Balbardie House and Gosford, both by Robert Adam.

Mr. T. P. Marwick, A.R.I.B.A., presided, and a vote of thanks to the lecturer was moved by Dr. Thomas Ross.

Trade and Craft

"S.X." Board.

The shortage of raw materials for building makes the appearance of this new wall-lining particularly opportune. "S.X." board is a tough, homogeneous board, composed of wood fibre in combination with other vegetable fibres, which have the effect of increasing the tensile strength. The manufacturers, The Thames Paper Company, Ltd., of Purfleet, Essex, state: "These fibres are first of all felted together in thin sheets, which are afterwards combined with a strong mineral cement—the resultant product being a rigid, non-conducting material, with an attractive white matt surface. This material is moisture resisting, and fire resisting, the resinous matter having been removed in the manufacturing process, while the cement binder is itself highly fire resistant. One of the great advantages of this material is the ease with which it can be fixed. Simply nailing the sheets to the studs or ceiling joists and covering the joins with a panelling strip is all that is necessary. No mess, no litter, no time required for drying. The sheets are in standard sizes, but can easily be cut with a fine set saw. A space of an eighth of an inch should be left between the boards where nailed. We recommend flat-headed galvanised or sherardised nails. Each board should be nailed along all four sides. The nailing up of the board is best done when all windows and doors are fixed. The wood fillets which are placed over the joins can be arranged to produce beautiful panelled effects. This gives great scope for a variety of treatment. Any good distemp can be used. A well known distemp has been found to give excellent result while a standard oil paint has also bee used without any priming coat or pr liminary sizing. The surface of t board permits of very pleasing decorati effects."

Tar Macadam.

An interesting illustrated folder has ju been issued by Messrs. Millars' Timb and Trading Company, Ltd., of Pinne Hall, London, E.C.2, showing one of t 4L Jaeger mixers mixing hot macadam. This mixer was recently p chased by the Epsom Rural Distr Council, whose surveyor states that it giving complete satisfaction. The mi is turning out between thirty tons and fo tons of mixed material in eight work hours on a petrol consumption of ab one gallon. A very rough sample of material, graded 3 in. downwards, tested and found to be completely coa with tar. The folder issued by Mes Millars also illustrates and gives sc particulars of the Jaeger mixers ployed in the re-surfacing of the n Ostend-Zeebrugge road, where, we un stand, they are giving an excellent acc of themselves. A copy of the folder sh be in the possession of every architect

Coming Events

FRIDAY, DECEMBER 3.

Institution of Mechanical Enginee Further discussion on "The Human tor in Industry," by Alexander Ran of Lincoln. 6 p.m.

Birmingham Architectural Associa —"Garden Design and Construction, Mr. Frank Hodson, jun.

Royal Technical College Architec Craftsman Society, Glasgow.—"(Construction in Canada," by R. D. B A.M.Inst.C.E.

SATURDAY, DECEMBER 4.

Architects and Surveyors' Assis Professional Union.—Visit to Gallery, Millbank. 2 p.m.

MONDAY, DECEMBER 6.

University of London.—"Library tecture." Professor A. E. Richa F.R.I.B.A. 5.30 p.m.

TUESDAY, DECEMBER 7.

Liverpool Architectural Society.— Geological Characters of Some Building Stones," by Professor P. Boswell, of the Liverpool Univ 6 p.m.

MONDAY, DECEMBER 13.

Bristol Society of Architects.—" ance in Relation to Building," by Lloyd.

Competition Awar

Frodsham War Memorial.

The following awards have been by the assessors in the Competitio War Memorial for Frodsham and sham Lordship: 1st, Mr. F. J. B Golden Square, Warrington; 2n Wm. A. Funnell, 23, Limes-road don, Surrey; 3rd, Messrs. J. Wh and Sons, Ltd., Imperial Works, 6 nington Oval, London, S.E.11 design prepared by Mr. Barnish been placed first, he has been sioned to carry out the work. Fif designs were submitted.

(*For List of Competitions Open issue.*)

RUBEROID

Roofing

RUBEROID combines all the essential requirements of a flat roofing. Low in prime cost, it is durable, unaffected by heat or cold, yet flexible, and will not crack or run. Is proof against vibration, and withstands foot traffic. Light in weight yet substantial. Needs no metal connections, and is equally efficient whether laid on boards or concrete, on flat, sloped or curved roofs. Although the least expensive it has proved during the past 29 years to be the most reliable form of flat roofing.

Our most convincing testimony is the buildings we have roofed. The premises for Messrs. Sutton & Co., Cork, illustrated hereunder is but one of the thousands of buildings covered with Ruberoid. Our Catalogue, illustrated with other examples of our work and containing full information, will be sent on request.

The Ruberoid Co., Ltd., 1, Waterloo House, 81-83, Knightrider St., E.C.4

Branches:—
Newcastle.
Birmingham.

Branches:—
Leith.
Dublin.

DOOR TO BOARD ROOM
Metropolitan Water Board's New Offices, Rosebery Avenue, E.C.
H. AUSTEN HALL, Esq. Arch.

JOINERY

of the highest quality including the very finest Panelling, Revolving Doors, Staircases, Chimney-pieces, School & Office Furniture, Theatre Fittings, Carving, also Church Furniture, Seating, etc.

MOULDINGS

of Superb Quality.

DESIGNERS & CONTRACTORS for Interior Decorations in all periods.

J. ELLIOTT & SONS READING LTD.

Telephone: 436 & 437, Reading.
Telegrams: 'Elliotson' Reading.

Branch Offices:
LONDON: 18, HANOVER ST., W.
MANCHESTER: 116, PORTLAND ST.

CONTENTS.

Edited by PROFESSOR A. E. RICHARDSON, F.R.I.B.A.

Notes and Comments: Wages and the Shipyard Joiners; Ex-Service Men as Builders; The Circular Saw Case, 617. The Empress Eugenie's English Home; Animals in Art; Advertising Progress; York Minster in the Air Raids; Morley's Hotel 618

The Passing of Morley's Hotel ... 619

The Week's News 620, 641

Architectural Causerie: Modern Opinion. By Aero 621

The Human Factor in Industry. By Alexander Ramsay 622

French Architecture of the Renaissance 626

Housing Progress 626

Inquiries Answered 629

Architecture and the Public 629

Preserving and Improving the Lickey Hills 630

The Marlborough College Memorial Design 635

Liverpool Architects' Assistants ... 635

Recent Military Architecture in India 636

R.I.B.A. 639

Competitions Open 640

The Advertising Exhibition 640

Publications Received 642

Correspondence 642

Trade and Craft 642

Current Prices of Materials... ... xix

Complete List of Contracts Open... xxiv

Coming Events xxviii

ILLUSTRATIONS:

Joseph Nollekens 615

Early Nineteenth-Century Architecture. 12.—Morley's Hotel, Trafalgar Square, London. George Ledwell Taylor, Architect 616

Ground and First Floor Plans of Morley's Hotel, Trafalgar Square, London 619

War Memorials. 11.—Memorial to London Troops, Royal Exchange. Sir Aston Webb, P.R.A., Architect. Alfred Drury, Sculptor 623

The Society of Architects' War Memorial Tablet. Poynter and Wenyon, Architects ... 625

Architecture of the Late Eighteenth-Century. 9.—Examples at Plymouth ... ...

Roof Truss for a Hall ... ...

Portrait of Mr. William Haywood, F.R.I.B.A. ... ...

Current Architecture. 51.—Sketch Proposals for a Recreation Centre in the Lickey Hills, Birmingham. William Haywood, F.R.I.B.A., Architect 632,

View from the Auditorium of Proposed Open-Air Theatre in the Lickey Hills ... ...

Williams Bridge over the Leh River, Chaklala, India. Major B. Matthews, F.R.I.B.A., Architect ... ...

Current Architecture. 52.—Dining-hall for M.T. Units, Chaklala Barracks, India. Major B. Matthews, F.R.I.B.A., Architect 63

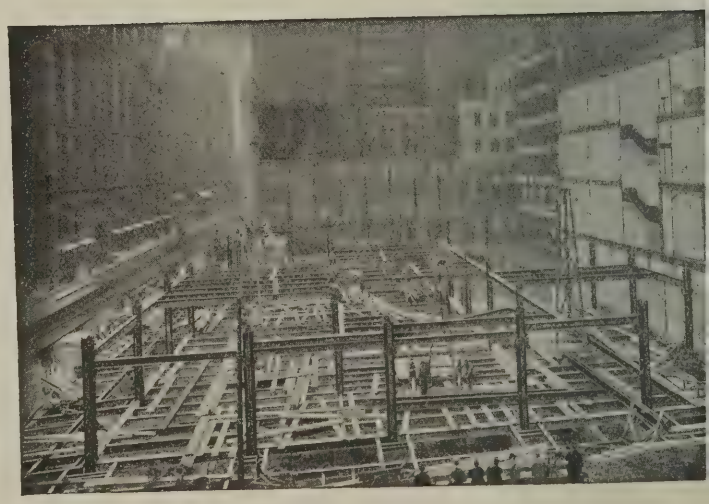
Block Plans of Central Mechanical Transport Stores and Barracks for British Troops, Chaklala, India ... ...

Entrance Gates to Central M.T. Stores, Chaklala ... ...

DAWNAY DEFINITIONS.—1.

RECONSTRUCTION.

RECONSTRUCTION is simply the building-up again of trade, bearing in mind the lessons of the last four years. Energy and a firm purpose are the essentials. These principles have been applied to our business—hence this announcement asking for your enquiries.



ARCHIBALD D. DAWNAY & SONS, Ltd.

Telephones: Battersea 1094 (3 lines). **Steelworks Road, Battersea, S.W.11.** Telegrams: "Dawnay, Battsquare, Londo

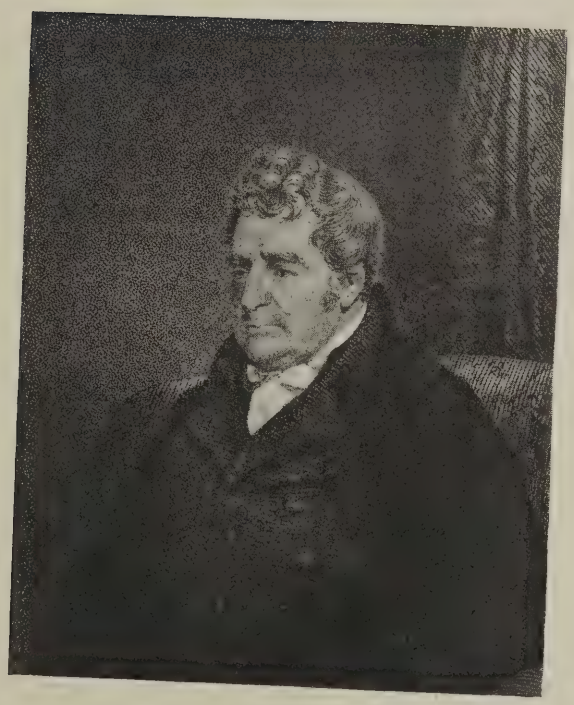
Telephone: Cardiff 2557. **And at East Moors, Cardiff.** Telegrams: "Dawnay, Cardif

Wednesday, December 8, 1920

Volume LII. No. 1353

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



JOSEPH NOLLEKENS (1737-1823).

One of the most fashionable sculptors of the latter part of the eighteenth century. Studying in Rome in 1760, he met Garrick, who commissioned him to execute a bust. This was so successful that Sterne also sat to him, being quickly followed by members of the Royal Family and distinguished political and social personages. He added to his income by buying and selling antiques, and was very successful in stock exchange speculations, dying worth £200,000.

27-29 Tothill Street, Westminster, S.W.1.

Early Nineteenth-Century Architecture. 12.—Morley's Hotel, Trafalgar Square, London

George Ledwell Taylor, Architect

It was announced last week that Morley's Hotel has been bought by the South African Government, and is to be internally reconstructed. It is also proposed to build a new and "arresting" entrance in imitation of the "Old Dutch Castle at Cape Town." We sincerely hope that competent architectural advice will be taken before anything is done further to afflict this sober and dignified façade, which is already sufficiently marred by modern excrescences.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.
ednesday, December 8, 1920
Volume LII. / No. 1353

Notes and Comments

Wages and the Shipyard Joiners

REACTION against extravagantly high wages set in rather strongly with the refusal of the shipyard owners to continue an increase of twelve shillings a week which had been con- ed to the joiners under temporary conditions. It is ural to deplore a strike that aims so direct and so dly a blow at the country's heart—for inadequate ping is surely the greatest misfortune from which sland race, dependent for its very life on sea-borne merce, can possibly suffer. Moreover, it is keenly sed that this inopportune strike, occurring at a nent when every nerve and sinew should be tense united effort to avert national bankruptcy, will be er exceptional if it does not soon spread disaffection ng sundry other sections of operatives, whose super- tive sympathetic nerves thrill in instant and joyous onse to the slightest vibration of the down-tools ement. Pity, however, would be wasted on the uilders themselves, who recklessly made a rod for own backs when, in spite of all protest, they syste- ally enticed carpenters and joiners away from the ing trades by the offer of preposterously high s. The ship-builders will therefore get no more athy than is due to those who are the authors of own misfortunes. Whether any considerable er of the twenty thousand joiners now on strike ome back to their old occupation of house-building ds partly on the duration of the strike and partly hether or not the respective denominations of yers are disposed to sink their mutual jealousies and shoulder to shoulder in sturdy opposition to a d that is extortionate beyond all reason and com- ense. Wages have been forced sky-high beyond onomic limit. That is the real issue at stake in esent trouble, and to get it determined decisively vers will sink all minor differences and combine

But apparently the London building opera- ave realised the futility of trying to squeeze out trade more than there is in it, and with the rest workers also the fear of bankruptcy is the begin- f wisdom.

Ex-Service Men as Builders

ative builders are notoriously averse to being This principle they seem to have elevated into f religion. They carry it into the arena of negoti- Dr. Macnamara, the Minister of Labour, ng questions on the subject in the House of Com- ecently was constrained to admit that negotia- etween the Government and the building especting the employment of ex-Service men had ing on intermittently since July, 1919, and are nclusive. Thereupon a Labour member put the inted question, "Can the right hon. gentleman say whether there is any reason, other than the opposition of his own supporters, why the Government should not build the houses themselves and employ these men direct?" Nothing could be more direct than the question, at any rate, but obviously Dr. Macnamara was not in a position to make a direct reply to it. He would rather not give a decision on the point while a national settlement is pending, and he was afraid that the trade unions would object to Government building the houses themselves. He is as right in his precaution as in his surmise. For Government to employ ex-Service men on building work would bring these long-drawn-out negotiations to an abrupt close, thereby provoking the determined hostility of the unionists and risking the disapproval of the organised employers, who would have just cause to resent Government usurpation of their functions, and yet would hardly care to risk the labour troubles that would be almost certain to arise through their superintending the work of non-unionists. This is the awkward dilemma that makes Dr. Macnamara's position difficult beyond exaggeration. All his tact and persuasive eloquence must be exercised to the full to induce the unionists either to agree to dilution or to refrain from obstructing the scheme which the Government would reluctantly adopt as the only alternative in sight—direct employment.

The Circular Saw Case

If a circular saw has "a musical note," the fact should not be stated in court. Mr. Justice Astbury, who tried the action of Drew-Bear, Perks and Co., Ltd., in the Chancery Division of the High Court of Justice, seemed to be rather annoyed by this obvious euphemism, which by straining credulity prejudices the case it was intended to support. This particular saw, musical or not, is to be silenced. It is a high-speed friction saw, used for cutting steel girders into lengths, at the defendants' works in Wellington Road, Battersea. Its "musical note" was carried across the river to Cheyne Walk, where five residents objected to the noise. Mr. Justice Astbury granted an injunction, restraining the defendants from working the saw in such a manner as to cause a nuisance to the plaintiffs, but suspended the injunction for three months on the defendants undertaking forthwith to do all in their power to reduce the noise. Science ought to be equal to the production of an effectual silencer of the most musical of notes; but unless the silence is absolute, or the noise is so effectually mingled among other noises as to lose its identity—go undetected in the crowd, as it were—further complaint is certain to arise, and *da capo* will be the signal for the litigation as well as for the musical note which some persons enjoy, some detest, and others cannot hear without listening for it very attentively. One cannot help sympathising with the firm whose business is to some extent hampered rather than with the few persons across the

river who fancy that their comfort is disturbed. Nor does the result of the action settle the question once for all. It is largely a question of degree and incidence —a question that may arise periodically and perpetually until the law is altered; for the law on the matter is in such delicate equilibrium as to give each party to an action a sporting chance. Whether or not an injunction is granted depends on whether a particular trade, of which complaint is made, sets up such a nuisance "as to interfere substantially with the ordinary comfort of human existence, according to the standard of comfort prevailing in the district." What the degree of the noise is, and what the standard of comfort of a particular district, are matters that have to be freshly determined for each locality every time the issue is raised. The true remedy for such collision of interests was proposed long ago by town-planners, who have shown it to be a mere matter of common sense not to mix up the manufacturing and the residential quarters. If these are kept distinct and well defined, it will be a boon to both that neither can interfere with the other.

The Empress Eugenie's English Home

The will of the Empress Eugenié is not destitute of æsthetic interest. She had a sort of "house-pride," or, at all events, an affection for her English home at Farnborough. She could not bear to think that it should remain shut up all the year round—"the idea," she wrote, "is painful to me." It is also evident that she was interested in other buildings, for she left £4,000 to augment the endowment of the chapel and crypt at Farnborough, where she is now buried, and she bequeathed 100,000 francs for the rebuilding of Reims Cathedral. Of her pictures, she left her portrait of the Empress Josephine to her nephew Comte Primoli, and to Dr. Hugon Smith the two Wouvermans in her little drawing-room at Farnborough. This gracious lady's attachment to her English home is the greatest compliment she could have paid us.

Animals in Art

The "dogs of war" are often benign. It would be unjust to associate them inalienably with the ancient saw of might, "Cry Havoc!' and let slip the dogs of war." Lieut.-Colonel Richardson, who has written an interesting book on the splendid services rendered by British dogs in the great war, suggests that, collectively if not individually, they have earned a statue. His idea that such a monument might be appropriately placed in Kensington Gardens, to keep company with the beautiful little "Peter Pan" statue, in which several "wee beasties" (as Sir J. M. Barrie might call them) dear to the hearts of children are charmingly comprehended, is certain to commend itself to that large and large-hearted section of the community known as "dog-lovers"—so classified somewhat invidiously, for do we not all come into that amiable category? If precedent is wanted for a statue to a dog, Edinburgh can supply it; and a monument to such devotion as that of "Greyfriars Bobbie," the ugly but devoted little Scots terrier who could not be enticed away from his master's grave, on which he died, greatly strengthens Lieut.-Col. Richardson's case. Bobbie's monument is likewise a fountain, thus averting the wrath of those who might feel that to carve a monument to a dog would be a degradation of the sculptor's art. Such scruples hardly relate to the painter, or we should never have found occasion to glorify a Landseer, an Armitage, a Briton Rivière, a little army of painters of dog portraits. But a dog is seen best as man's faithful companion, and we suggest that the most interesting kind of monument would be one showing that fine intimacy in one of its most dramatic moments. A horse might also be introduced to afford both moral and physical balance to the monument, for the horse, who also served and suffered in the war, is a more sculpturesque animal than the dog and has hardly less noble or less lovable qualities. Th proposal for a monument in honour of "our four-foote friends" will be warmly approved by a nation pre-em nent for its kindness to "dumb creatures," and we sha be surprised and disappointed if the proposal is n adopted with acclamation.

Advertising Progress

The Advertising Exhibition, which closed last Satu day, has surprised everybody, even its promoters, by i huge popularity. Every day, and all day, it w crowded with visitors, whose lively interest in all th they saw was in strong contrast to the listlessness depressingly evident at most exhibitions. Never w manifest so triumphant a demonstration of the vit force that resides in judicious advertisement. Ancie Greece and Rome—nay, earlier Egypt—made th valuable discovery thousands of years before the da of the Christian era. America has long acted stren ously on its knowledge of the important part th advertising plays in business economy, and spends it a pound for every penny allotted to it in Brita This revelation of the potency of publicity when alli to wit and humour, art and philosophy, truth a decorum, should effect a revolution in British metho of doing business. The exhibition has proved demonstration that advertising is an essential item business economy, and the lesson will not be lost eit on professional men or on those semi-professional trad who think that "it is vulgar to advertise."

York Minster in the Air Raids

It has just come to light that three times Y Minster narrowly escaped destruction by enemy craft. One or two bombs fell so near the fabric t the priceless mediæval glass would probably have b shattered by the vibration if the custodians of building had not taken the wise precaution to rem the precious windows to safe quarters. They are being put back, but some of the glass is so exceedin thin that a certain amount of damage—very slight, trust—was inevitable. With great age, glass we thin, and some of that at York is so old as to crumbl a touch.

Morley's Hotel

Morley's Hotel at Charing Cross is to go. It has b sold to the Government of South Africa, who, if they it down, will obliterate a most familiar bit of Cha Cross. Without being in itself very impressive it some exhales a quiet dignity that will be greatly missed matter how grandiose a building South Africa puts its place. Morley's Hotel has the sedate dignity of head-waiter of Dickensian days, who is the slave of and decorum. Certainly the hotel is a survival of c times and other manners—an anachronism. It reel the Regency, although it really belongs to the eight thirties, but pays its respects to the Adam m when Robert Smirke was very active hereab It wears a mildly deprecating air, as if in protest ag the blatancies that have sprung up about it. On opposite corner of the Strand, for instance, there i Grand, whose very name is in striking contrast wit modesty of "Morley's." When Morley's Hotel is t down what will happen to its contemporary and co mentary buildings on the other side of Trafalgar S —the banks at the corner of Cockspur Street? are fine buildings, racy of their period, and one wou very sorry to lose them; but if they remain, while s thing colossally South African takes the plac Morley's, Trafalgar Square will look less than eve a place conceived as a general scheme. Would tha times were more propitious for advocating the re-planning of Trafalgar Square and the Charing end of the Strand.

The Passing of Morley's Hotel

HE announcement that Morley's Hotel, Charing Cross, has again changed hands, and will now be converted into Government offices for the Union of South Africa, marks the end of one ıe few remaining old-fashioned hotels which bore ıame of their original proprietors. Erected in 1836 ıe design of George Ledwell Taylor, the building one of the first to be erected as part of Trafalgar .re, and, although primarily intended by the archi- to be flats and offices, was opened as an hotel in and passed in 1844 into the hands of the Morley y.

:cupying nearly the whole of the eastern side of the :e, and extending for some distance along the d, it is said to have "the best site in Europe." : of its windows overlook the station which is one e great gateways of the world—for to the world are two gateways, Charing Cross and Suez.

Morley's" was quietly famous, and its name, like ıeard's, was a cosmopolitan word. But it was abso- English, and the Victorian flavour hung over these last months. There were no saloons and es and special restaurants; there was no gilt and ttle marble; without seeming to make any great it succeeded in being a "home from home."

mentioned, the building was one of the first to form f the Square, which was laid out by Barry in 1832. the naming of the Square, Taylor claims credit aving induced William the Fourth to accept lgar Square instead of King William the Fourth e as its appellation.

ides designing this east side of Trafalgar Square, r laid out a considerable portion of the Bishop of n's estate, Westbourne Terrace (where he built e for himself), Chester Place, and parts of Hyde Square and Gloucester Square.

doners will regret the passing of this fine old :y, yet there is cause for thankfulness among ects that the exterior is not to be *entirely* shed. The shops on the ground floor and the g Cross Post Office will not be disturbed. But it intention of the South African Government that trance shall be entirely rebuilt, and be a repre- on of the Old Dutch Castle in Cape Town. "The Times" seems to view this with equanimity, and remarks that it will be "arresting" to have such a representation in one of the chief centres of London's traffic. For ourselves we look on it with some alarm. We suggest that before definitely deciding to erect this "Dutch Castle" entrance the South African Government should take competent architectural advice on the subject—preferably that of an architect who is in sympathy with the work of the early nineteenth-century period.

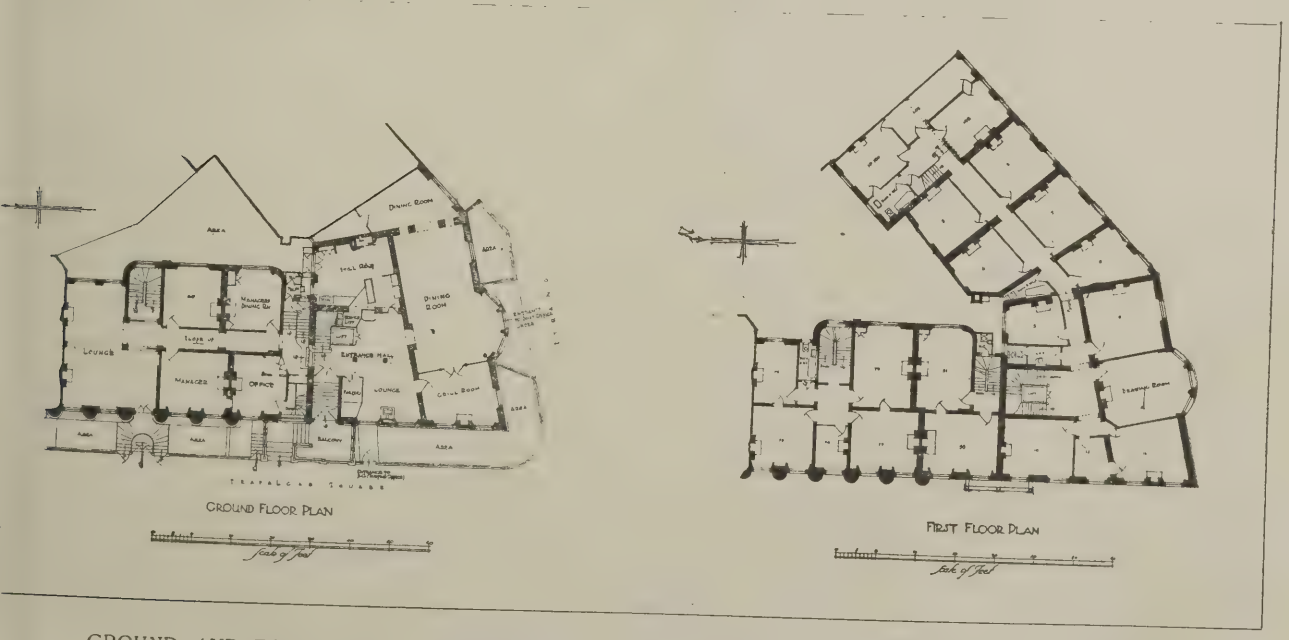
If the seemly frontage of Taylor's building—the lines of which harmonise so beautifully with those of the National Gallery and the club premises on the west side of the Square—is to be worse than spoiled by the introduction of this "arresting" feature, it will be best to walk the streets of this London of ours with eyes shut, and seek its beauties only in the old prints and photographs of a fast disappearing age.

Morley's Hotel may not be great architecture, but in any case it is dignified and unpretentious—content to take a subordinate part in the general lay-out of the square. Even so, there is a peculiar attraction in its horizontal lines, its regularly distributed window openings, enlivened by a central group of engaged Ionic columns and a balancing pilaster treatment breaking slightly forward on each flank.

Though differing in design from Smirke's Club premises and College of Physicians on the opposite side of the square, the hotel is sympathetic in scale and character—reminding us of the days when architects could be politely complimentary one to another, and were not expected to vie in the production of buildings that should shout their individuality to the world at large.

George Ledwell Taylor, the architect, was born in London in 1780, and died in April, 1873. He was educated at Rawe's Academy, Bromley. Employed by the Admiralty as surveyor of buildings, he superintended important works in the Dockyards at Chatham, Woolwich, and Sheerness, but upon a scheme for retrenchment in that department, which involved Taylors' dismissal, he was obliged to take up general practice. Some account of his life and works he left in his two-volume "Autobiography of An Octogenarian Architect."

H. J.



GROUND- AND FIRST-FLOOR PLANS OF MORLEY'S HOTEL, TRAFALGAR SQUARE, LONDON.

The Week's News

Office of Works and Housing

Sir A. Mond, First Commissioner of Works, has stated in the House of Commons that the number of houses to be completed under schemes at present in operation under the Office of Works was 2,236, and that the estimated cost, when completed, was £2,200,000. There were about twenty schemes under negotiation with local authorities, on which work would be commenced when the financial arrangements had been made by the local authorities. These would apply to about 4,000 houses. There was further negotiation pending —though it was impossible to say at present when they would be commenced—for about 6,000 houses, making 10,000 in all. Speaking roughly, the approximate cost was £1,000 per house.

Building Trade Wages

Mr. J. Murrey, secretary of the London district of the Building Operatives' Federation, has informed a Press representative that the Council of the Federation have decided to take no further action at present to enforce the demand of the London district for an increase of wages. He stated that "the Council had passed a resolution vigorously protesting against the National Conciliation Board not dealing with the matter on its merits and putting it off by giving no decision. We consider that ample evidence was submitted to warrant an advance. The only step open for the Council after the Conciliation Board had failed to give a decision was either to accept the position under protest or take direct action. Our Council unanimously decided that at present no further action be taken in the matter, but to notify the employers of our intention to raise the question of an advance of wages to an improved status next spring."

Super-Cinema for Edinburgh

A proposal is afoot to demolish the Albert Buildings, Sandwick Place, Edinburgh, and to build a first-class cinema and restaurant. The present structure contains, in addition to the cinema theatre, three shops, a restaurant, and some sixty offices and studios. It is proposed to reconstruct the whole, and plans are being prepared for the erection of a super-cinema on the site capable of accommodating 1,600 people. Provision is being made for a first-class restaurant, with accommodation for 400 persons at a sitting, two tea lounges, one on the auditorium level to seat 230, and another on the balcony level to seat 200; writing and smoking rooms, private retiring rooms for ladies, two electric elevators giving access to all parts of the building, post office, telephone exchange, and tape machine. To complete the new building it is anticipated that it will not be necessary to close down the existing theatre more than three months, and that the whole will be ready for opening early in September, 1921. The shell of the new building will be constructed of heavy steel. Mr. Frank E. Blanc is the architect.

The Dome of St. Paul's

An urgent appeal for funds for the strengthening of the dome of St. Paul's Cathedral has been made by Canon Alexander, treasurer of the Cathedral. For more than seven years, he said, fortified by expert advice of every kind, they had been grappling with the critical problem of the stability of that great dome. The problem went back to the first beginnings of the present structure. Sir Christopher Wren planned originally a much lighter dome, and when his designs were put aside the piers, filled as they are with rubble, proved hardly adequate to meet the tremendous pressure; and dome settled towards the south-west. As one s inside and beneath it there was a wonderful impre of serenity and power; yet, in fact, there was goin without pause, day and night, a veritable struggl giants—the dome pressing down the piers, the straining to uplift the dome. The problem had be more acute as the years had gone by and as the c tions had become more unfavourable; and it migl only a question of time before the fabric would reac danger point. About a quarter of the necessary had been carried out, and if wages and prices rem at their present level a large sum would be need complete the scheme. Five years had been given t practical rebuilding of the south-west pier, which been strengthened by the insertion of several tho tons of new stone and cement, and by the remov great quantities of rusting iron, and he hoped t second pier would be finished in a few months. steel girders without which the workmen could p no further, had just been procured at enormous c relieve the arches of some of the weight while th were being finished. The interruption due to th services added greatly both to the time and the e entailed.

Northampton Polytechnic Institute

An enjoyable evening was spent by the stud the Northampton Polytechnic Institute and their on the occasion of the annual prize distribution. workshops and laboratories were on view as equip ordinary work, and several demonstrations arranged in the lecture-rooms with the usual t apparatus. Dr. S. Russell Wells, vice-chancello University of London, who presented the pri certificates, said he believed that the capabilitie British people were as great as ever they were, bu up to the nation at large to supply the young sol commerce with the necessary armament of educat regarded the Northampton Institute as one of t recruiting and organising centres from which we reinforcements to those who were engaged in th ous battles of trade and commerce. The princi R. Mullineux Walmsley, stated in his report th had now resumed pre-war dimensions. The nu students approached 3,000, and the total hours was 126,000, as against 58,000 in 1918-19.

Shortage of Bricklayers

The London County Council Housing C have drawn attention to the fact that progress development of the several housing estate Council is seriously impeded through the inabil contractors to secure an adequate supply c labour. "Building operations are being carri the Bellingham, Becontree, Norbury, Old C Roehampton Estates, and at each estate pr delayed, especially on account of the shortage layers, and, in a lesser degree at present, of c At least 500 more bricklayers spread over th sites could be employed forthwith. This nun however, by no means satisfy the requireme next few months. The deficiency in the n bricklayers seeking employment and for who now available, is very marked. If it could b not only would it then be possible to employ tw unskilled men for every fresh bricklayer increased number of carpenters and men of ot trades could be employed almost immediately

(*News continued on page* 641.)

Architectural Causerie: Modern Opinion

ENGLISH architecture of all periods is being studied to-day by architects of other nations, some of whom make extensive tours in this country to gain knowledge and inspiration. r. Konda, Professor of Architecture at the Imperial cademy of Arts, Tokio, Japan, is the most recent sitor to these shores. With characteristic thoroughss Mr. Konda has attended lectures at the Architecral Association and at University College, besides voting much time to sketching in London. This week is due to visit the Ecole des Beaux-Arts in Paris.

* * *

Our Spanish friends, formerly devotees at the utonic shrine, have now embarked upon the appropria-n of features found in the domestic architecture and niture of Great Britain, and in like manner our Belgian lies favour modern English furniture. Only last week e of the most recent books on architecture, published Berlin, came to my notice, and to my surprise I found it English decoration formed the bulk of the argunt. America, after experimenting with every known toric style, has returned in the main to the traditional ory of the English Renaissance, most particularly for nestic work, besides extending the local tradition of -revolutionary and other times.

* * *

There is hardly a doubt that English architecture, h historical and of the present day, holds many attracns for the instruction and delight of foreign architects. is is as it should be. In all artistic matters the barriers ocal prejudice are being swept away. There is being ned a wider vision regarding the sequence of evolu- in the fine arts of all countries; insularity is not ed upon with favour; and although some people fess a horror of the term "cosmopolitan," the general d of thought in the republic of art embraces such a ory.

* * *

t certain periods it becomes necessary for the artists interpret the tastes of a nation to review contemry achievement in neighbouring countries with the ct of measuring and co-ordinating the works upon h they are engaged. Such tasks should fall within sphere of action undertaken by academies and influal coteries; but, unfortunately, the individualistic lencies of native architects and artists in this country ate against the success of such enterprise. The ons to-day are so closely knit that it has become ssible, even if we adopt ostrich tactics, to ignore the s of art produced by our neighbours. When new veries are made, or designs of outstanding merit are uced, the influence of such affairs becomes apparent st immediately throughout the world; hence the n for close study, for an international exchange of and the widening of the artistic horizon.

* * *

Great Britain we have traditional works of the first . We point with pride to our mediæval cathedrals, e sequence of the domestic tradition from the times e Tudors to the present day. We take a pride in Gothic of the nineteenth century, and have respect nglicised Greek, Roman, Italian, and other works iced the day before yesterday, although we know works to belong to an experimental phase in the y of the nation. From the time of Inigo Jones to resent day the tale of English architecture reveals ng series of experiments. In the seventeenth and eenth centuries traditional craftsmanship, filtered rship, and good taste, raised above the ordinary rts associated with design, and ensured a whole-flavour to the vernacular.

After the period of hashdom came the age of quick travel and the flourish of sketch-books, followed by the rule of the camera. In consequence, eclecticism, in itself harmless, became a passion with people who had lost all sense of direction, until in the 'seventies an octogenarian architect who had been associated with the men of discipline cried, "It is true that just now a mongrel style of building is in vogue, but this cannot last for ever, and CLASSIC ARCHITECTURE AND ORNAMENT will be again resorted to, and should be taught to our pupils in our universities and schools." Little did this elderly man think that fifty years later his thoughts would become realities.

* * *

English architecture to-day is not in the melting-pot; it is advancing towards ideals of efficiency and good taste. Some years, however, must elapse before it attains the position truly expressive of national ambition. The architecture of to-day is modern. Every new house, every new street façade, every work undertaken at the public expense, bears the stamp of the day. I will not go so far as to say that more than a small percentage of such works reveal the truest instincts of artistry. The majority are illiterate renderings of some half-forgotten historical theme. If it were possible to arrange a new city on a convenient site, and, having planned the streets and public places, to select some of the best buildings produced in this country during the last decade, a very tolerable result could be obtained. Unfortunately the mass production of modern buildings, mostly bad, swamps the good work, and almost obscures the best of the historical work. The latter-day traditionalists are making a brave attempt to re-establish good taste, not to advocate a return to trunk hose, Macaroni headgear, or Comte d'Orsay garments. It is to the credit of these men that domestic architecture in this country has become steady, and that the vernacular of the speculative builder has been checked. The watchword in this regard has been simplicity. I would it applied to the building of street fronts in our cities.

* * *

Reverting to modern tendencies, and the scope of international architecture, the bias must always be towards national expression, but this does not prevent the incorporation of ideas gleaned from neighbouring countries. To-day we look towards America with envious feelings. We view the best works of New York, Boston, Philadelphia, Washington, and San Francisco as being part of our heritage. We see our American friends profiting by the blood relationship and producing modern works more traditionally English than the fustian we order in this country. We have a sneaking regard for the brilliancy of French planning, and retain our dislike, so truly John-Bullish, of "French Kickshaws." We realise the need for fresh ideas in our domestic work, and look towards the Colonial houses of America; in like manner we are attracted to the simplicity of Italian villas, and we recognise in the plates of Krafft and Scheult motifs sympathetic to our insular position. All should be grist to our mill if we thought with surety; it is a simple business—to the trained mind. We English are capable of rising to great heights as artists if we develop the right attitude and pay increased attention to scholarship. New styles do not spring up at a moment's notice. There is no necessity for stunting in architecture. We build for the future by expressing our own period, not by flights of futuristic fancy. Who will tolerate the jazz a century ahead, other than as an example of bad taste, just as we to-day snigger at the Chinoiseries of William Halfpenny, or the so-called "Queen Anne" of forty years ago.

AERO.

The Human Factor in Industry*

By ALEXANDER RAMSAY

THE prosperity of an industrial community is largely governed by the efficiency and energy of its wealth-producing classes. Of these the brain-worker is not the least important. To him we owe the comforts and refinements of modern society; he has been eager to wrest from Nature the secrets she carried in her bosom and mould them to the use of man and the progress of humanity. He has devoted himself with enthusiasm and sacrifice to the patient and laboured elucidation of scientific truths which have added much to the knowledge and resources of the world. He made possible the marvellous productive capacity of a machine and labour-saving age. His place in industry, his training, scope, and encouragement would afford an interesting and profitable study. But the most perfect piece of mechanism is without value unless guided by labour. The most brilliant product of the mind cannot become material until labour has performed its function. The whole structure of industry is ultimately at the mercy of those who work with their hands. Their attitude towards the problems of production is of supreme importance, and inasmuch as that attitude at the moment gives rise to some anxiety, it is to this phase of the subject that attention will be directed.

The country is still in the aftermath of the war. Over a considerable period it became accustomed to a prodigal expenditure of wealth without particular scrutiny of the value received. Employers and workers alike were dipping into a purse which seemed bottomless; expectations were high; rewards were high; the art of spending was tremendously encouraged. It is obvious, of course, that during this period the nation was disposing not of its revenue but its capital, and that to such a process there must be a definite and speedy end. Moreover, the continued expenditure of capital resources has the effect not only of dissipating wealth but of rendering it impossible to create more. The employers are very rapidly appreciating this truth and taking suitable action; sections of the workers appear to act as if the national wealth were illimitable and bore no relation to that which is produced.

Workers' Ambitions

The activities of the workers are divided in two main channels which are rapidly converging—the industrial and political. In the industrial sphere attempts are made to secure better conditions from the individual employer or group of employers, and in the political to obtain general advantage, and to effect ultimately a fundamental change in the organisation of industry by the nationalisation of the means of production and exchange. These ambitions are perfectly understandable and legitimate, and if the workers believe in them they are entirely justified in pursuing them; but there is an unfortunate disposition amongst a section of the leaders of the Labour movement to regard the employer as one who stands between them and their reasonable aspirations, and who must accordingly be fought by every weapon at command. No apparent regard is paid to the fact that the institutions he represents are the foundations of the State, and that such merely destructive activities immediately react on the prosperity of the community. There is a tendency to seek the fulfilment of the new idea, not by the cumulative effect of sound constructive work, but by the destruction of the present system on which, until something better is evolved, the livelihood of the whole nation depends. In other words, these doctrinaires are consciously at war with the present organisation of industry, and their attitude is expressed in a general encouragement of mistrust, impatience, antagonism, and complete indifference to productive efficiency. It would not be true to say that the bulk of the workers are dominated by this idea, but the application of their unreasoned philosophy leads to very much the same thing.

Status of Labour

The past six years have witnessed a tremendous development in the status of labour—against which there is nothing to be urged. Wages have largely increased, hours of work have been lessened, and the organisation of the workers has been enormously strengthened. But with this new sense and experience of power, certain irresponsibilities have resulted which are most disastrous. In a certain industry, for example, subsidised by the taxpayers, the wages have increased 300 per cent., and individual output, it is alleged, has fallen at least 50 per cent. Most of the great trade unions of the country have declared against working a system of payment by result in spite of the most complete safeguard for the inefficient, and in spite of the fact that this system is beyond all question the most effective to induce production and in principle the most equitable to all concerned. Over a considerable period there has been a national embargo on the working of overtime. Avoidable overtime is an evil which cannot be defended. Overtime on a key operation is on occasion an essential, which it is sheer folly in these times to refuse. Overtime to pour a casting to provide work for a gang of men, or to release a cargo steamer to catch a tide, are instances which would have been acknowledged had there been any disposition to examine the question on its merits; and still demand follows demand for further and increased advantages.

These circumstances are not referred to by way of recrimination, but because they indicate an attitude of mind. They indicate that the workers do not believe that the country is now in such a position that only greatly increased production can save it from industrial disaster. They do not realise that their well-being can only be assured, provided they are able to exchange freely the manufactured articles they produce for the commodities which they must obtain from other peoples; and that, too, in competition with other manufacturing communities similarly situated. They do not appreciate the fact that the cost and bulk of our production must determine the cost and bulk of th things we desire to import for our ma tenance or comfort, and that to this tent the cost and standard of living wo appear to be factors largely governed themselves. They are holding out b hands to grasp at privilege and do count the cost.

This in brief is the pressing probl with which industrial statesmanship faced. Many of the industries of country, if not already there, are rapi drifting into a position which is econon ally unsound. If the tendency to t out of industry more than is put into i further pursued, or if the destruc theory is more extensively accepted by workers that the debilitation of the sent organisation is, in itself, someth desirable to achieve, there is before country a period of grave economic cr and social danger. Industry cannot subsidised indefinitely by the taxpay or carried on out of capital resources, unless the nation settles down to w and produces what it seeks to enjoy cannot escape the disaster resulting f the defiance of such elementary need. is desirable that some other means t bitter experience be found of den strating that it is useless to ev theories of distribution if nothing e to distribute, because in the times we disillusionment and distress are evils will not live alone.

Now the probability is that the si tion has not got beyond a point whe can be regulated, provided the minc industry addresses itself to the prob A remarkable combination of circ stances, due to the war, and necessita continuous employment at whatever have given the workers an unbala perspective, and created illusions wl in the nature of things, cannot be m tained. It is unthinkable that a us well-balanced community would con economic suicide if it realised what taking place. The average British w man in his individual capacity is eminently a sane and reasonable b and he will rise to meet a necessity w he understands. The need for educ propaganda therefore is pre-eminent.

Propaganda Necessary

It is a first necessity that he shoul made to understand that he is getti "square deal." His spirit of reason only be approached through his spi fair-play. It has been a striking fact in the seething turmoil of the minin dustry excessive demands have not justified popularly, on the ground th miner's conditions of employment improper, so much as on the grounc he desired a larger share of the p which he alleged the employers making. The cotton industry has rec witnessed a financial manipu whereby stockholders have realis capital appreciation of remarkable e Is it to be supposed that the spinner be satisfied until they have shared i spoils? The plain fact is, that the w are now strong enough to exact a fai portion of the profits of production it would be wise to make it quite cle the employer shares in their desire.

* A paper read before the Institution of Mechanical Engineers.

War Memorials. II.—Memorial to London Troops, Royal Exchange

Sir Aston Webb, P.R.A., Architect. Alfred Drury, R.A., Sculptor

Photo: Topical

This memorial (which was unveiled a short time ago by the Duke of Connaught) has, we may assume, been kept purposely attenuated in order to obstruct as little as possible the view of the portico of the Royal Exchange. A critical note upon it appeared in our issue for November 17.

e employers attempt to create an atmo-
here of goodwill, and reciprocated good-
ll can at least be possible.

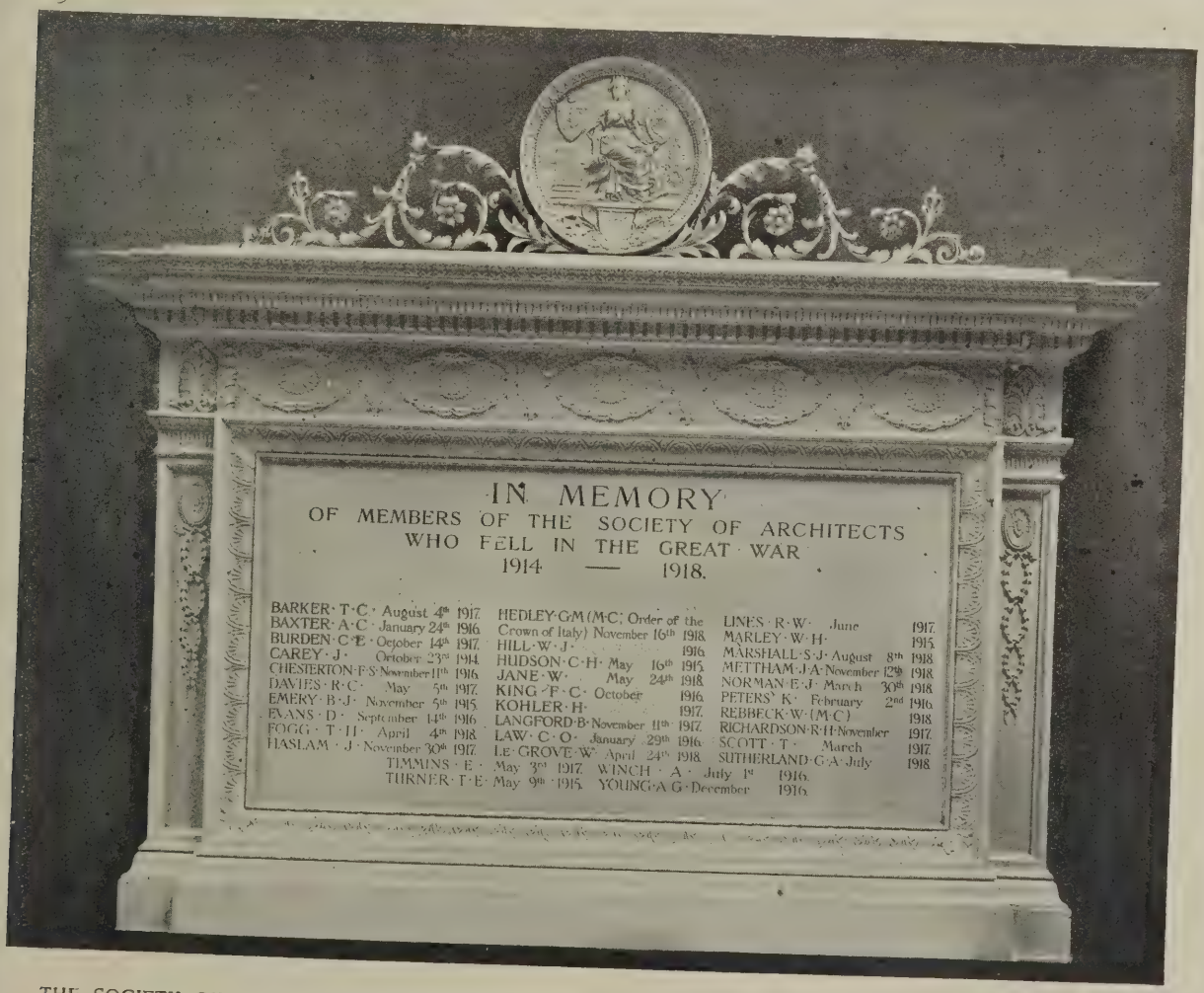
If two parties are inseparably associated,
d differences arise which cannot be
nored, peace will be best assured by
nk and friendly discussion. In this con-
ction the National Industrial Confer-
ce was a splendid conception, and it is
great misfortune that its potentialities
ve not been more fully developed. But
e individual can do a great deal. Those
quainted with the problems of manage-
ent should, wherever possible, establish
rsonal contact with the worker, and keep
m in touch with the world factors affect-
g the particular product on which he is
gaged. But one of the main difficulties
laying an effective case before the men
s in the fact that in a large workshop it
only possible for the directional heads
get into personal contact with a very
w individuals. These delegates may be
fectly honest, but it is unreasonable to
ect them when reporting discussion to
ept the employer's outlook and repre-
t it in convincing fashion. The shop
ward cannot be regarded as the best
ans of propagating information which
employer believes the individual
ker ought to know. It is suggested,
efore, that the institution of the fac-
journal or house organ should be
ch more extensively developed, either
the individual factory or a group of
ories, and that in its columns should
place from time to time a full consideration of the various domestic problems which constantly arise. A wise works' director, who could have a weekly talk with the bulk of his employees through such channels, would achieve a work the importance of which could not be measured.

Back to Economics

Some attempt, too, must be made to demonstrate to the public at large the governing factors on economic questions. It has not been realised, for instance, that the tremendous increase in the price of labour and raw material is making it impossible for the country to finance the volume of output of which it is capable, with a consequent reduction in the purchasing power of the nation. It is not understood that every increase now made is simply making the evil more pronounced, and defeating the very purpose for which it was designed. Subsidised houses, transport, coal, and other commodities have been accepted with the utmost complacency, and a feeling has been created that such political strategies can be substituted for work. There has been no real insistence on the fact that the primary duty at the moment is to produce in the utmost quantity at the cheapest rate, and that instead of the studied indifference experienced, the whole of the community should be mobilised to this end.

The time has come, too, when the mischievous interference by Government Departments in industrial negotiation should be considerably curtailed. It cannot be eliminated, because the Government is responsible for the maintenance of law and order in the realm; it is the custodian of the interests of those not directly affected by a dispute, and, as such, is an interested party whose voice, when necessary, must be heard. But it has been proved on many occasions that a Government is too susceptible to outside considerations. Expediency is the only recognisable note of its industrial policy. And where it is quite well known that one party to a discussion will always give way to expediency, the other may well be expected to remain obdurate. The workers are clearly entitled to receive from industry the greatest advantage which industry can afford, but this line cannot be overstepped without grave menace to themselves. There comes a time, therefore, when necessity must govern; and this point can best be determined by the directional heads of industry on the one side and the trade unions on the other.

Finally, our industrial and social difficulties can be eased by the efficiency of the employer. He it is who in a very real sense has to keep running the wheels of industry, and on him depends to no small extent the economic security of the country. But has the inanimate side of production been reduced to the science it might become, or is industry still instinct with the conservatism of old-established practice? Is the art of production studied



THE SOCIETY OF ARCHITECTS' WAR MEMORIAL TABLET. POYNTER AND WENYON, ARCHITECTS.

This tablet, erected in the Council Chamber of the Society, at 28, Bedford Square, was unveiled by the President, Sir Charles T. Ruthen, O.B.E., F.R.I.B.A., on November 11. It was executed by Messrs. H. H. Martyn and Co., Ltd., of Cheltenham.

or does it simply evolve? Much time and money could be saved if the lessons of experience were anticipated or even supplemented by the training of the schools.

It is advisable that employers should cultivate more the practice of the open door. They should develop a community of interest, interchange ideas, treat each other not as competitors but coadjutors. No individual is strong enough to withstand the tendencies of the times, and these certainly call for unity of purpose, knowledge, and action. The hope of the future lies in the possibility that capital and labour may develop a better understanding and encourage a mutual inclination to further each other's reasonable aspirations. Such an end would have magnificent results, but it will not be attained until the nation consciously strives to bring it about.

French Architecture of the Renaissance

Mr. W. H. Ward, M.A., F.S.A., F.R.I.B.A., in the course of a public lecture at the Bartlett School of Architecture, University College, on "French Architecture of the Renaissance," said that French Renaissance architecture was especially interesting for three reasons (1) Because it was essentially national; (2) because it was essentially homogeneous and continuous; and (3) because its variations closely reflected political and social conditions. Almost all French architecture since 1500 was Renaissance architecture. There were three main periods: from 1500 to 1660 was a period of growth and development; from 1660 to 1815 was a period of maturity, and from 1815 to the present day, a period into which various other elements came, might be described as a period of conflict and readjustment. The period of growth was fascinating and full of charm, the period of maturity was less popular, but was of much more use to modern architects, because the conditions were more similar; the more modern period was perhaps too near our own time to be seen in its proper perspective.

About 1660 the French State had reached the climax of its development. A centralised monarchy had been achieved, and all independence was repressed. There was, on the other hand, a great brilliance of foreign policy and of Court functions, and this was reflected in literature and the arts, which were utilised by Louis XIV. to give extra glamour to his Government. All those things—the State, literature, the arts, social life—had reached maturity, and the tentative phases were over.

When the nobles were deprived of their power in the State and were only allowed two alternatives—a military career or a career at Court—they were able to set up a standard of urbanity which became the standard not only of France but of all Europe. In the sixteenth century the influence of the classics of Italy and of the Low Countries had all been followed. There had been no great school of French painting of equal importance to those of Italy and Flanders, and there were but few great sculptors. But at the period of the middle of the seventeenth century there was a large number of very fine sculptors, and painting had reached its great classical period. In architecture that course of development was very striking.

In the sixteenth century the influence of the classics in Italy had been grafted on to the strong and vigorous native stock; the graft had taken and the sap was flowing, and by the middle of the seventeenth century was bearing rich and ripe fruit. At first this was shown by playfulness and refinement, but towards the end of the period it showed signs of massiveness and became coarser, although a certain monumentality was associated with it. But in all these periods there was some provinciality.

French architecture of the mature period was independent of foreign influence; it was self-sufficient and was a national style. There was a series of great architects and decorators—F. Mansart, L. Le Vau, Perrault, J. H. Mansart, Le Brun—in full activity. Their work was no longer a provincial variety of Italian, but was the main stream of influence in Europe. In all domains maturity and nationality had been reached and a style formed. The middle of the reign of Louis XIV. was the apogee of success and splendour. The whole national life of the country was concentrated in the palaces of the Court, and it was the task of architecture to represent stateliness, pomp, and the irresistible power of the great monarch. It was the age of palaces and public buildings. The style of architecture then formed, fully mature and able to express all requirements, maintained itself in all essentials until 1815. This was brought about by several causes: for one thing there was the fact that it was mature, and there were also its association with the Government and the nobles, the influence of the Academy and the schools, and the way in which architecture was practised by generations of the same family, who handed on their traditions from father to son. This architecture, on the whole, was continuous and unchanged, and could be adapted to the varying requirements by changes in detail, especially in decoration. The last twenty-five years of the reign of Louis XIV. was, on the whole, a period of failure. The splendour and success of the earlier years had to be paid for, resulting in repression, over-taxation, sacrifice, and bloodshed. Architecture suffered in the same way. It was too uniformly pompous, lacking in imagination, charm, human interest, and intimacy—it was a Court architecture.

On the death of Louis XIV. the nobles emancipated themselves from all the restraint which had been imposed upon them, and largely forsook the Court. They went to live in Paris rather than Versailles, and instead of the great halls and galleries they sought privacy and small houses in town and country. In architecture there was a breaking away from formal character in design, and a revival of baroque in its daintier forms. There was a movement in the direction of smaller and more comfortable residences. There was a revival of all that was barred under pompous absolutism. There was an abandonment of straight, and especially horizontal lines and a greater emphasis of vertical lines. There was a tendency to break into cornices with decoration, and the rooms frequently had rounded corners. Decoration was largely composed of flowing curves, scrolls, "rocailles," palms and other naturalesque ornament.

In the reign of Louis XVI. there was a puristic reaction, chiefly caused by a revival of interest in classical studies, discoveries of ancient architecture in Pompeii and Greece, and the teaching of Rous who advocated a return to the simple Under these circumstances, the licen Rococo became associated with wha corrupt, and the result was a return to architectural and geometrical forms, cal precedents and straight lines. In ration Pompeian types and natural simply conventionalised were used, a architecture there was a quieter and detail and ornament, more strictly cl forms, the abandonment of curves on and a return to the Louis XIV. m but with less pomp and with a g adaptability to varied uses.

The Revolution was not at first s sive of classical tradition, but rather sified it; it altered the tradition and using classical forms; copying was tuted for assimilation, and whole fe even whole buildings, were repro Anything for which no precedent was rejected, regardless of the clim social requirements. The process o tegration was somewhat hastened destruction of the Academy and t appearance of the nobility. Fortu there were at hand two architects of lent taste—Percier and Fontaine—w studied in Italy, and especially in and who re-created a style of deco which was brought into use under th of Napoleon. That style of decorati very similar to that at the time o XVI., but had not quite the same it was somewhat more formal, st mechanical, and occasionally nigg detail.

Housing Progress

The Ministry of Health report t siderable progress has been made the last three weeks in the employ unskilled labour on roads and sew in connection with London schemes. At the present mom number of men employed on this six of the London County Council schemes has been increased from the end of October to 2,270 in the of November, and still furthe increases are expected.

Some typical instances may b from the London boroughs. At W for instance, 120 men were empl the end of October. By the en year it is expected that the num be increased to 250. At Hamn 140 men were employed on the Estate at the end of October. It pated that no fewer than 190 wi employment by the end of the week. Work has just been st Park Farm at Romford. Thirt are now employed, and it is hope ploy fifty by the end of the year. lar number is expected to be e shortly at Wood Green on the Wl Lane Estate. At Erith, estim being pressed forward with a vie ploying 150 to 200 men before t the year, while at Ilford, on th London schemes, the road and s has already been done, and the tions of houses laid to a very la in advance of the labour avai building. In spite of this fact, t try of Health have asked the Co to undertake still more road w sewer work with the object of i the demand for labour.

Further details of housing pro be found in the Week's News (pa

HOUSES IN DURNFORD STREET, STONEHOUSE.

CUSTOMS WATCH HOUSE, BARBICAN.

The houses shown above were treated to a weather coat of stucco about a hundred years ago, when the original slating was stripped off to accord with the dictates of John Foulston. The twin doorways suggest the continuity of brotherly love—a feature of Plymouth life and religion. The Customs Watch House is to some extent reminiscent of Colonial work. The geometrical sashing to the first floor windows gives a play of line in admirable contrast to the miniature colonnade below.

Enquiries Answered

The Editors cordially invite enquiries rom readers who require information on rchitectural, constructional, or legal atters.

Answers to enquiries are in all cases the ork of experts; and while every care is aken to make the replies thoroughly reliable, the Editors cannot hold themselves esponsible for any inaccuracies that may advertently occur.

Correspondents whose difficulties involve ossible legal proceedings are strongly rged to consult their solicitors before aking action on any advice that may be iven.

Examination questions cannot be nswered.

It must be understood that, as a rule, oth question and answer will be published these columns. The name and address the querist must always be given, not ecessarily for publication.

Correspondents are requested to be as ief as possible, and to write on one side the paper only.

Tile Moulds and Presses.

H. B. writes: "Can you give me the mes of the makers of tile moulds and esses for the manufacture of magnesite es?"

—Our querist should communicate with essrs. Vickers, Ltd., of Vickers House, adway, S.W.1; or Messrs. Henry Wilde Co., Ltd., 8, Manor Park, Lee, S.E.13.

Cleaning Portland Stone.

H. H. writes: "We have to clean a antity of Portland stone which has been red for several years owing to the war, has got very black with soot being preitated. This soot has worked into the es, and what we want is some preparawhich can be applied to the face with injuring the stone and when removed bring the dirt with it.

Can you assist us in the matter, or tell where we can apply for the preparation uired? Possibly there is some firm of nters' sundriesmen or commercial nists who could supply something that ld answer our purpose."

—The coating of soot can be removed the Portland stone by washing the of the stone with hot water and Hud- soap. If the soot has caked on the ace add a little common soda to the water.

oroughly rub the soap and water into tone and then vigorously scrub with a bing brush. This method of cleaning not injure the face of the stone.

W. S. B.

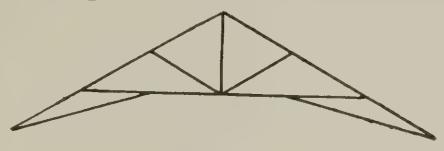
School Planning.

QUIRER writes: "Will you kindly inme which is the latest and best publin on modern elementary and secondary l planning?"

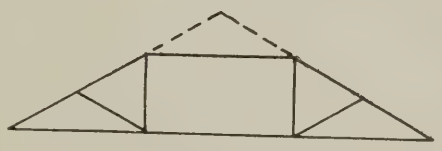
The latest publication dealing with l design was issued by the London ty Council in September last under tle, "Scheme of the Local Education rity." This volume, an illustrated of which appeared in THE ARCHI- JOURNAL for September 1, forms a omplete survey of the educational re- s of the Metropolis, existing and pro- e, and includes two very interesting rs on the planning and design of tary and secondary school buildings. of the publication may be obtained, s. net, either directly or through any ller, from Messrs. P. S. King and Son, Ltd., 2 and 4, Great Smith Street, Victoria Street, Westminster, S.W. A special supplement on the planning and design of modern school buildings, containing plans, photographs, and particulars of science, technical, secondary, elementary, open-air, and other special schools erected in various parts of the country was published in THE ARCHITECTS' JOURNAL for December 26, 1917.

Roof Truss for a Hall.

TRUSS writes: "I have to roof a hall, 29 ft. wide, built of concrete in situ (without reinforcement). The piers to carry roof trusses are 18½ in. thick. The roof is collar beam, as Fig. 1. How will the concrete withstand the thrust of such a roof? Would the substitution of a queen post tie beam truss (Fig. 2) be of much greater advantage?"



NO. 1.



NO. 2.

—There is not enough data given to advise definitely. It is necessary, to answer the query fully and accurately, to know the distance apart of the trusses and the height and width of the piers. Speaking generally, the substitution of the queen post truss would ensure greater stability, because with the exception of that due to wind pressure, the reactions are vertical, whereas with type No. 1 there is a certain amount of thrust exerted by the truss itself in addition to the wind pressure.

W. S. B.

Prices of Materials.

RESEARCH writes: "Please inform me as to the exact interpretation of the following abbreviations used in your weekly published price lists: (1) Fixing only D.P. course "EX" rolls. . . . (2) Boards, "F.E." 3rd and u/s. (3) Although your timber prices remain the same as last week and labour is identical, your "measured" prices have fallen roughly 2s. per foot cube in the first three items. (4) Your price of excavation and throwing out was 4s. 6d. per yard cube, though a contemporary published the same at 24s. 6d.—the latter price certainly embraced "carting to shoot," but surely the difference cannot be so great.

—It is hardly possible to deal with the schedule on such a broad basis that the different trade terms all over the country can be indicated against each item. (1) Fixing only dampproof course "ex" rolls means, fixing only such dampproof coursing as is supplied in rolls, such as vulcanite, Callender's, etc. (2) Boards F.E., 3rd and u/s, trade terms generally understood, meaning boards, feather-edge (or weather boarding, or weather cleading), 3rd grade or unsorted. (3) The prices shown until recently were based upon the better qualities of timber, but now that 3rd quality is more generally available the measured price has been reduced accordingly. The reduction should really have been gradual over the last three or four weeks. (4) We do not include carting to "tip" or "shoot," because circumstances differ with localities and even a mile will add greatly to the cost of carting away earth. The difference is quite easily accounted for by the loading and carting, and our contemporary's price is not a low one.

Weights of Glass.

BAGDAD writes: "Could you give me a table showing the largest sheets in which the various weights of glass up to ¼-in. plate could safely be used in fixed positions free from vibration and in sashes and doors, etc., subject to movement and shock?"

—Sheet glass is made up to 60 in. by 40 in., but it is not advisable to use it in larger sheets than shown in the table. Plate glass can be obtained up to 200 ft. super., provided the extreme length does not exceed 16 ft. 8 in., but the cost per foot super. increases as the area approaches the maximum. If the vibration and jarring is excessive the glass should be beaded with soft thick paper, rubber, or wash-leather, and under these circumstances it is a more economical method to glaze in small squares of, say, about 180 in. super., because the cost of renewal is not so great in the event of breakage.

The following tables give the required sizes, and one dimension may be increased if the other is correspondingly decreased:

	Without Vibration.	With Vibration.
Sheet, 15 oz.	24 in. by 24 in.	8 in. by 8 in.
21 oz.	30 in. by 30 in.	15 in. by 15 in.
26 oz.	35 in. by 35 in.	18 in. by 18 in.
32 oz.	40 in. by 40 in.	20 in. by 20 in.
Plate, ⅛ in.	40 in. by 40 in.	20 in. by 20 in.
3-16 in.	80 in. by 80 in.	40 in. by 40 in.
¼ in.	up to maximum	60 in. by 60 in.

W. S. B.

Architecture and the Public

That architecture as an art is gaining increasing popularity among the general public becomes daily more and more apparent. The layman is, it seems, beginning to realise that architecture is not only a matter of proportion and perspective, a dull business of measurement and plan, but that it has every claim to take its place as one of the everyday arts of life.

Art lovers have led the way in pointing out to the man in the street the beauty and romance of buildings, and the veriest tyro in things aesthetic is becoming aware of the fascinating fields of study which are thus opened up. There is a genuine satisfaction in tracing the evolution of modern styles and methods, in noting the reverence of ancient types; and pictorial reconstructions of the architecture of different periods enable the student, as nothing else can do, to watch the evolution of the very old into the very new.

Proof of this is seen in the interest and appreciation evinced by numerous lay visitors to the exhibit of Walcot etchings in the Reading Room at 29, Tothill Street. Mr. Walcot's pre-eminence as artist-architect is too widely acknowledged to need comment, but it is encouraging for the sake of architecture in general to feel that his work is receiving a yet wider appreciation among those outside the profession.

Preserving and Improving the Lickey Hil

INTERESTING proposals for the preservation and improvement of the famous Lickey Hills, near Birmingham, are set forth in a well-produced brochure recently issued by Birmingham Civic Society's Advisory Committee on Recreative Development, which was formed at the request of the Lord Mayor (Alderman W. A. Cadbury) and the Parks Committee of the City Council. These proposals aim at the preservation of those primitive natural effects which are the greatest charm of the hills. They also suggest suitable methods of approach from town, and the provision of centres for the more intensive types of recreation, one such centre (towards which a sum of £5,000 has already been given) being described in some detail.

The Lickey Hills had, until the last fifty or sixty years, been common land from time immemorial, and were largely covered with forest and heath. In the eighteenth century Lickey Common covered an area of over 3,000 acres, but first by encroachments and then by the operation of the Enclosure Act of 1803, the whole of the land was enclosed except a small piece round the "Old Rose and Crown Inn." But when, in 1883, the inn was sold this too became private property, and the public were finally excluded. A movement, however, was immediately set on foot to reclaim the Hills for the use of the public; and Mr. Grosvenor Lee, with other members of the Birmingham Association for the Preservation of Open Spaces, succeeded in purchasing the Rednal Hill, and in 1889 handed it over to the Corporation.

Recently Birmingham became the richer by some fine additions to the estate, acquired by purchase from Lord Plymouth and as the gift of Mr. Edward Cadbury and Mr. G. Cadbury, jun., with the assistance of the Common Good Fund. In all there are over 450 acres of wooded heights and pasture land in the Lickey district now in possession of the city.

The latest gift of land was accompanied by an offer from the donors of £1,000 towards the preparation of a plan for the best adaptation of the hills generally to the use of the people.

A Natural Reservation

In furtherance of that idea, which seemed to meet with general acceptance, Mr. S. D. Adshead, M.A., F.R.I.B.A., Professor of Town Planning at the London University, was consulted as to the best method of proceeding with such a scheme. After inspecting the hills, he submitted a report, as a result of which Mr. William Haywood, F.R.I.B.A., Lecturer on "Civic Design and Town Planning" at the Birmingham University, and a well-known Birmingham architect who has studied the use of such natural reservations as carried out in the United States, was asked to prepare a scheme for utilising the existing buildings and providing facilities for appropriate recreation.

Following are some extracts from Mr Haywood's report to the donors: The fine natural scenery of the Lickey Hills is their dominant characteristic, and it is desirable to preserve this quality intact, emphasising it where possible by the removal of artificial boundaries and by a careful subordination of any new features which it may be necessary to introduce.

It is largely for this reason that in the scheme now submitted the provision of what may be called intensive recreation facilities has been concentrated near to the existing buildings, and also near to the main road, where they would be readily accessible, and not create such unnecessary traffic as would result from scattering these facilities about the estate.

The area chosen for a formal lay-out is, therefore, the most desirable for general reasons, but it is also the only area in which the configuration of the land permits such planning without encroachment upon the breadth and continuity of the surrounding natural effects.

Recreation Facilities

Thus, the Outdoor Theatre is placed on a slope which would meet the new requirements with very little variation from its present contours, and it is screened from sight and also from exposure by the Rednal Hill and the trees in the vicinity.

The Children's Hollow is arranged in an existing sunny depression which is well enclosed and protected.

The Maze is also in a natural hollow, of which the existing surrounding hedges would form the outer walls of the design—and so on. The accommodation provided is indeed so inconspicuous in the landscape, as seen from the surrounding hills, that it may be said to leave present appeara unaltered, except for the formal line the lawns, pergola, etc., which woul place the present irregular and unsati tory garden.

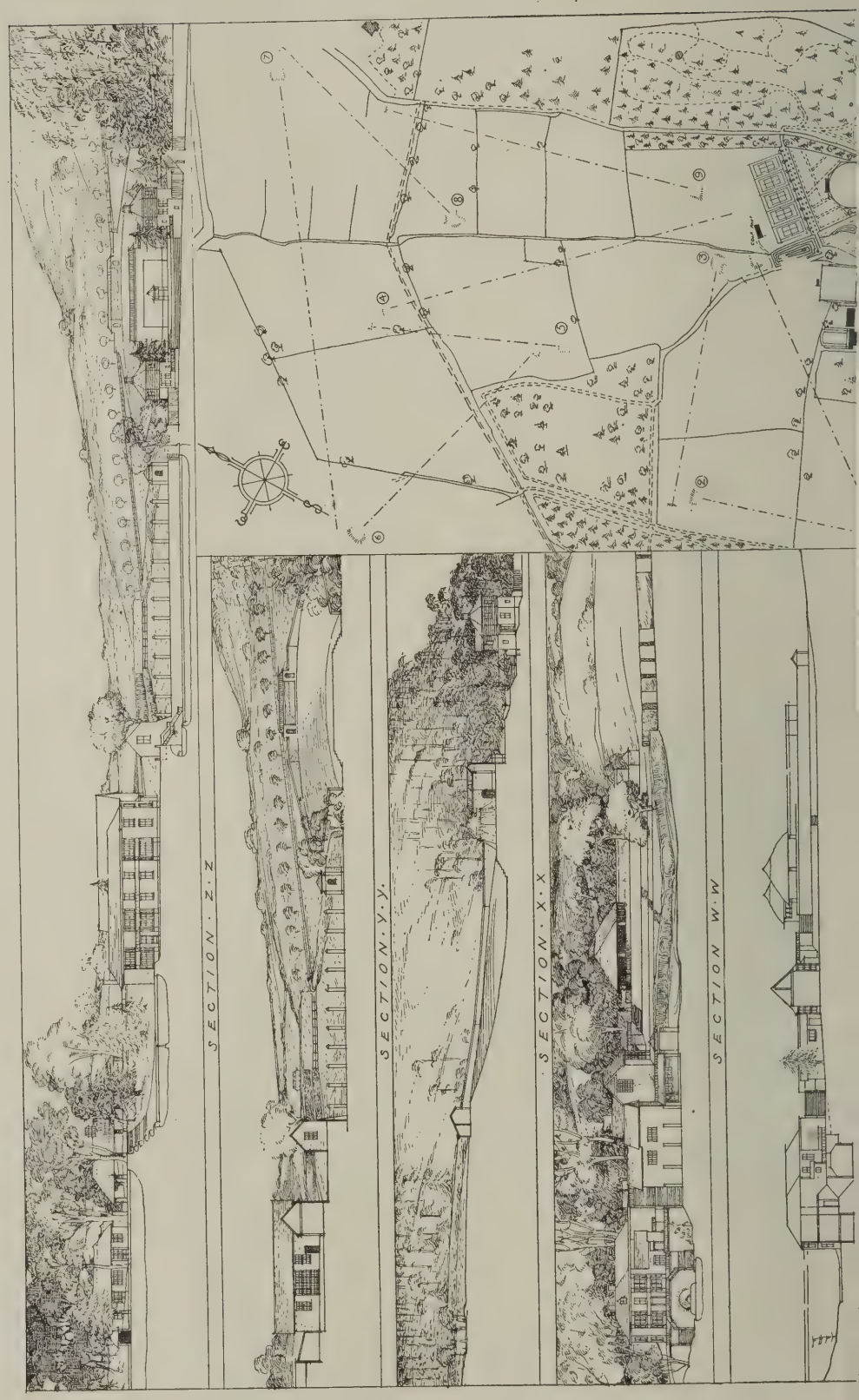
The approach from town. The pr scheme does not deal with a suitable terminus from town, as this would be formed in the vicinity of the Bilberry Tea Rooms, serving as an introducti the hills generally, and, since it is at point that additional cycle and r storage would naturally be placed, no vision is made at the "Old Rose Crown" for these purposes.

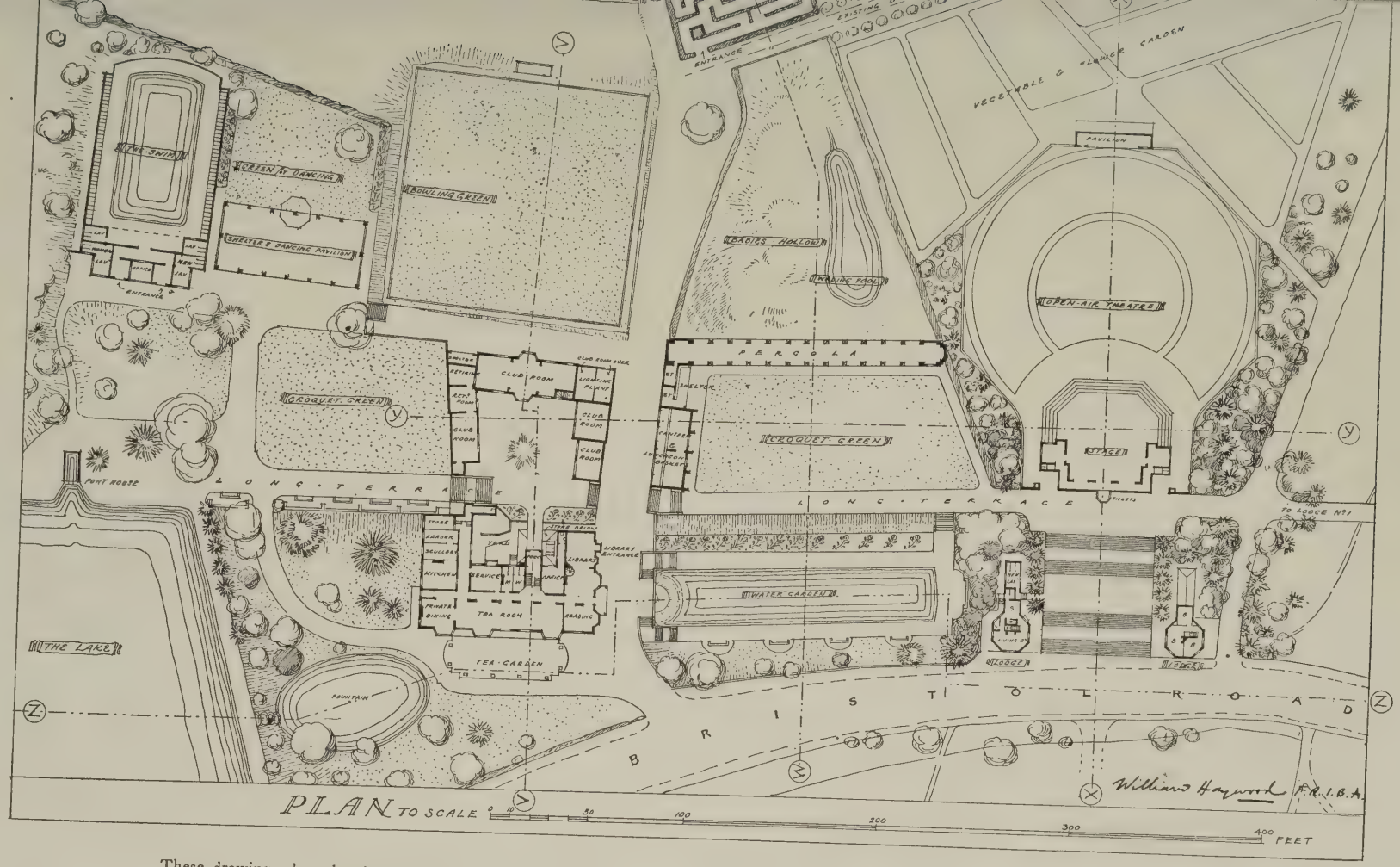
Whether such a terminus is forme not, it is desirable that some feature sl be erected on the fringe of the pr scheme which would be seen from th rooms (the future terminus) and so cate, at the first approach, the locati the facilities now under consider This is provided by a small octa lodge on the axial line of the Bristol l as seen from the tea rooms (where e ries could be made and small map guides might be sold). This lodge mark a direct entrance to the new ga by way of an interesting path, rising rough stairway to a timber bridge ning the old quarry, and opening the long terrace which it is propos form in a direct line through the ga through the back courtyard of the ex

MR. WILLIAM HAYWOOD, F.R.I.B.A.

Current Architecture. 51.—Sketch Proposals for a Recreation Centre in the Lickey Hills, Birmingham

William Haywood, F.R.I.B.A., Architect





These drawings show in plan, elevation, and section, the sketch proposals for a Recreation Centre in the Lickey Hills put forward by Mr. William Haywood, F.R.I.B.A., at the request of the Birmingham Civic Society, who have recently issued a brochure describing and illustrating the whole scheme. The small-scale plan shows the general lay-out, which includes a golf course in the valley. The large-scale plan shows the proposed new features in more detail, including the existing house (the "Old Rose and Crown") which has been altered as described in the extracts from Mr. Haywood's report which we publish on page 630.

buildings, to the lake, and so to the path which winds up the valley beside the stream and waterfalls.

Where the terrace passes the theatre entrance a roomy forecourt is planned, opening direct from the road for the convenience of large theatre audiences, and at this point lavatory accommodation is provided next to the existing drainage system.

Flanking this entrance on the road-front are two lodges for groundsmen or keepers, which mark the entrance and are in a position to facilitate control and supervision.

The theatre is designed to seat about 1,750 people, and is suitable for orchestral and other concerts, pageants, and the like, for which purposes the stage would be stepped down to the auditorium to give a large area for display. The auditorium could be enlarged at a later date if found necessary, but the actual size will be influenced by the acoustic conditions necessary for the type of performance to be given, and the discouraging effect of an area too large for many occasions when a maximum attendance is impossible, must also be considered.

The present garden, which lies between the theatre site and the house, has been terraced to give strong and simple lines. The pond might be used for sailing model yachts, but it is preferable in this case to use it only for ornamental effect. The water is obtained by a diversion of the overflow from the fountain pond, and would pass back to its present channel at the theatre entrance.

The house itself is admirably suited for light catering, and one hundred people could be accommodated on the ground floor, leaving ample room for service, cloaks, office, and resident manager, while the outdoor tea garden would provide for another 150 in the busy season. The present schoolroom, extended as shown, would make an excellent branch library and reading-room, and the remaining rooms on the first floor would be required for the resident manager and general staff.

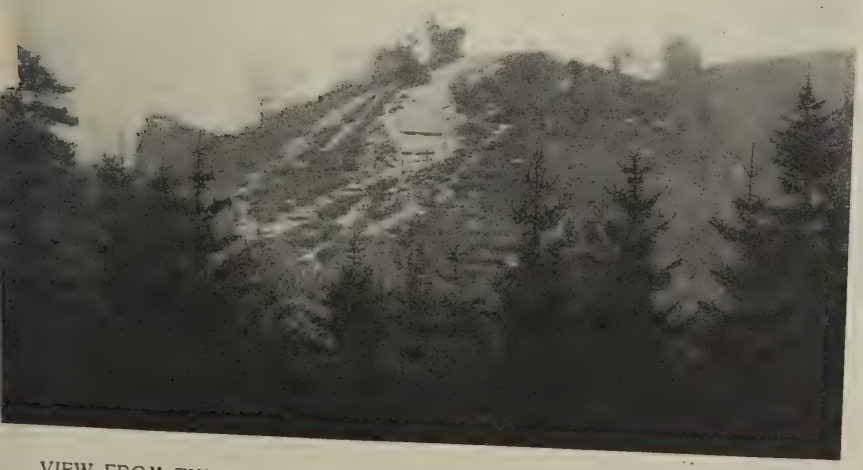
A large open-air swimming bath adjoins the thatched barn, the water for which would be taken from the lake, and at this point there is further general lavatory provision.

The remaining accommodation is readily seen from the plan, and includes three bowling and croquet greens, with shelters and stores, five tennis courts, the maze, babies' hollow, with a wading pool and sand bunkers, and pergola with pisé-de-terre columns, etc., etc.

The present report does not deal with the estate as a whole, because the general work to be done is for the most part of a negative nature, which can only be indicated on the spot and from time to time.

Reports and plans have been approved in their general outline by the City Parks Committee, but as the times are not propitious for the expenditure of public money, it is probable that the work to be done will be spread over several years, and that the more special features will require the assistance of private generosity.

The brochure, which is finely produced and illustrated, may be obtained, price 1/6 from the Birmingham Civic Society, 37, Bennetts Hill, Birmingham. The illustrations in this issue are given by the courtesy of the Society.



VIEW FROM THE AUDITORIUM OF PROPOSED OPEN-AIR THEATRE IN THE LICKEY HILLS, BIRMINGHAM.

The Marlborough College Memorial Designs

In announcing the awards in the above competition last week we had no space in which to refer to the second and third premiated designs. A few words of comment may, therefore, now be added. First we may note that the second premiated design (by Mr. F. B. Dunkerley) differs very considerably, both in general conception and arrangement on site, from that of the winner. Mr. W. G. Newton, it will be remembered, set his building well back on the vertical axis, thus providing a spacious forecourt approach. Mr. Dunkerley has planned his building much farther forward, the axis of the chapel being carried on as the longitudinal axis of the vestibule of the new structure, which is approached direct from the Chapel Terrace. This arrangement, though certainly convenient, lacks the dignity of the deeper setting.

With regard to the plan of the building itself, the semi-circular form is adopted, with three considerable projections on the curved, or rear, elevation. These projections contain what are in effect galleries, though the line of the seating is continued up from the main floor. The device is extremely ingenious from the point of view of providing accommodation economically; but it does not work out very satisfactorily in elevation.

The third premiated design, by Major Maurice E. Webb, D.S.O., F.R.I.B.A. (we much regret that owing to a defective telephone the name was misapprehended and, unfortunately, wrongly rendered last week), is also characterised by the semi-circular plan, though in this case the arrangement is reversed, the curved elevation (which is also the entrance front) being towards the road. The building is slightly set back from the horizontal axis, and its left entrance doorway is approached by a diagonal pathway from the Chapel Terrace. The plan is compact and well arranged, and a gallery is provided.

Amongst a number of designs showing extraordinary diversity of treatment, Mr. Newton's is undoubtedly the best in plan, elevation, and detail. The only feature of the design to which practical objection may be raised is the internal colonnade in front of, and from certain points of view obscuring the view from, the gallery seats. But one ought willingly to put up with a little inconvenience for the sake of so fine a feature. Mr. Newton's design was illustrated last week.

Liverpool Architects' Assistants

At the second sessional meeting of the Liverpool branch of the Architects' and Surveyors' Assistants' Professional Union about forty-five members listened to an address by Mr. Lionel B. Budden, M.A., A.R.I.B.A., of the Liverpool School of Architecture, on "Architectural Training."

"What is an architect?" he asked, and set forth the five different branches of knowledge in which an architect must be proficient, viz.: Planning, sanitation and hygiene, design, presentation of design, and administration, including legal and financial matters. He pointed out that the old system of training by pupilage, which had begun to fail in its object before the war, had now received the *coup de grace*. An office was primarily concerned with the getting of building work done, its function was not to teach, nor could it possibly have adequate facilities for doing so. The academic training of the architect which had been in vogue in France for over 200 years, had now also become universal in America, together with specialisation in design, engineering, and the business side of the profession.

In our own country, said Mr. Budden, academic training was only in its infancy, and the full effects of its introduction would not be apparent for a generation. One of the immediate difficulties it had to face was the bridging of the gulf between the school and the office. He said that Liverpool University has the most complete curriculum of any architectural school in this country; its complete course covered five years, and it conferred a degree in architecture.

In the United States the cinematograph had already been brought into use for the teaching of the actual conduct of building operations, with very good results; the lack of funds had so far prevented its use in this country.

A discussion followed, and a vote of thanks to the lecturer terminated the meeting.

Recent Military Architecture in India

OWING to the rapid development of mechanical transport on the Frontier of India during the war, it became evident that a central depot for stores was necessary, where spare parts for lorries, etc., could be stocked in readiness for immediate issue. Chaklala was originally a small village about two miles from Rawalpindi, the "Aldershot" of Northern India, and it was decided, owing to the lack of a suitable site in Rawalpindi, to erect at Chaklala the Central Mechanical Transport Stores for the North-West Frontier.

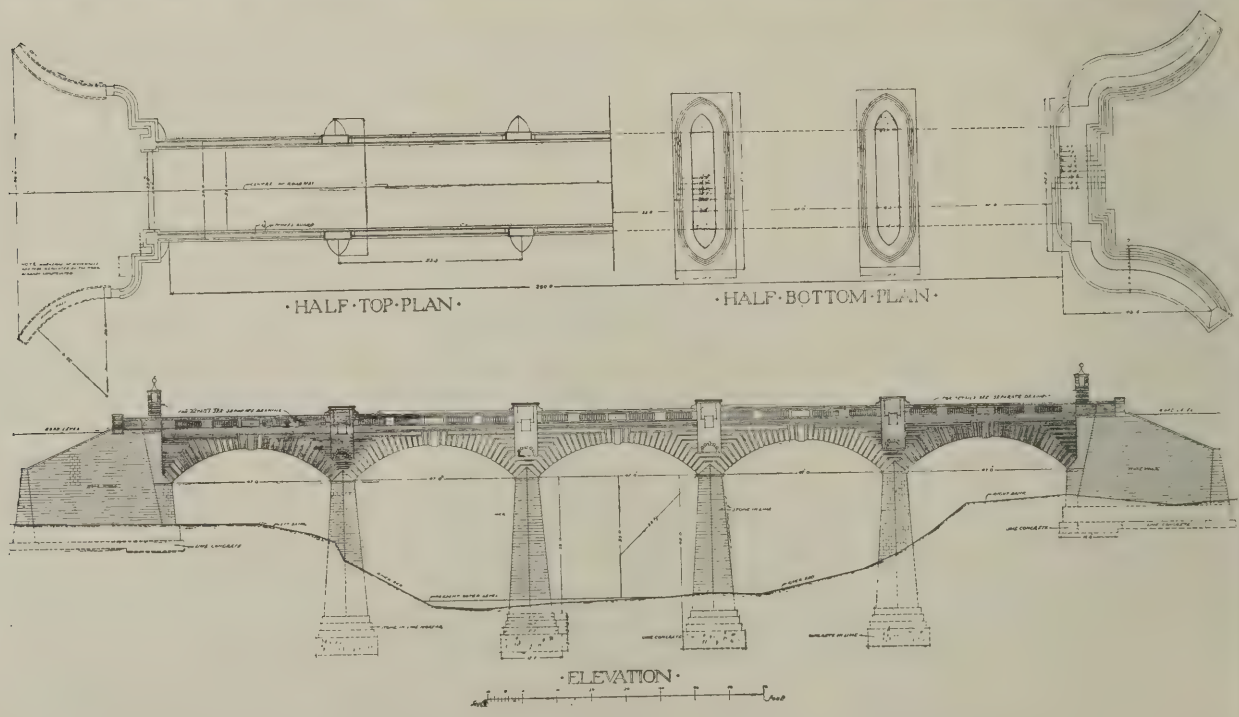
Before a start could be made with any work, brick manufacture had to be established near the building site, all the bricks for the buildings being moulded from local clay and burnt in Bull's kilns. In order to provide a road to the site it became necessary to construct a bridge over the Leh River. During the greater part of the year this is only a shallow stream, but during the floods in the rainy season it rapidly rises. The bridge is therefore constructed at a height well above the maximum level reached by the water in flood time. The piers are built of local stone obtained about three miles from the site, and the arches are constructed of local bricks on wooden centering.

The stores are built in a series of parallel bays, each self-contained with storekeeper's office, and an underground tyre store is constructed beneath the long store at either end. In order to reduce the temperature of the tyre stores during the hot weather, water-cooled air is forced into the building by means of an electric "Sirocco Fan," and extracted again by another fan at the opposite end of the store, thus ensuring a continuous supply of cooled air.

The buildings are constructed of local bricks and roofed with deodar wooden trusses and Allahabad tiles (manufactured on the site), somewhat similar in design to the Roman pan tiles. Reinforced brickwork is used for the roofs over the verandah, and the wide cornice (locally known as "Chajja") is of Taraki sto The administrative offices are placed i central position and accommodate officers in charge and clerical staff. block of barracks has already been c structed for the accommodation of Bri personnel.

The old barracks in India are mass barnlike structures, with double veranc on each side, in which the occupants t their meals, and it is only in recent y that separate dining accommodation been provided. In the Chaklala Barr an attempt has been made to combine barrack rooms and dining-hall in a def lay-out. In the old barracks each ma provided with a kit box placed at the of the bed, but in these barracks man has a small cupboard for kit built the wall and recessed shelves over the for books, etc.

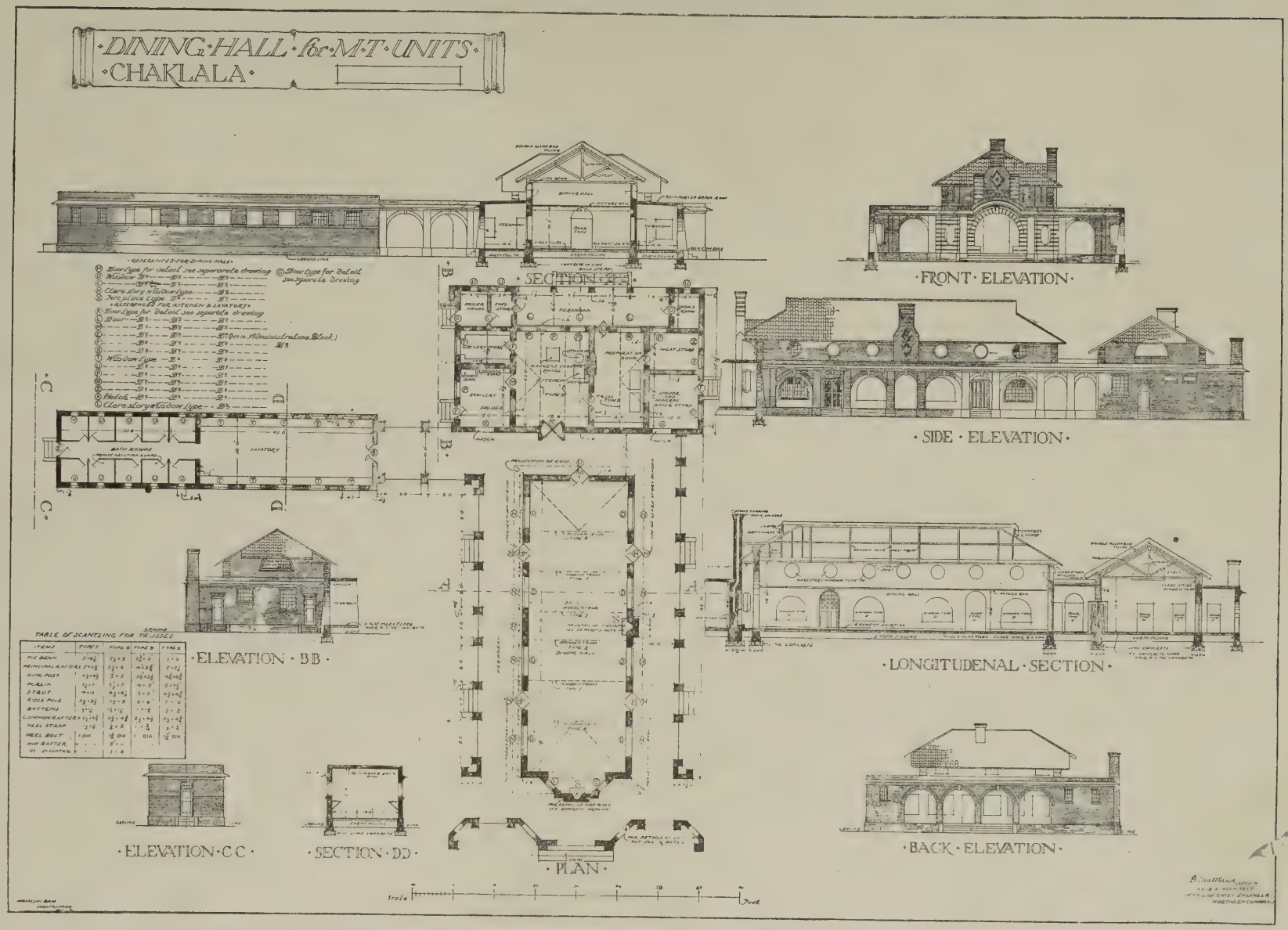
A different style of treatment has adopted for the dining-hall, thus get away from the usual barrack-like app ance of these rooms. Special attentio



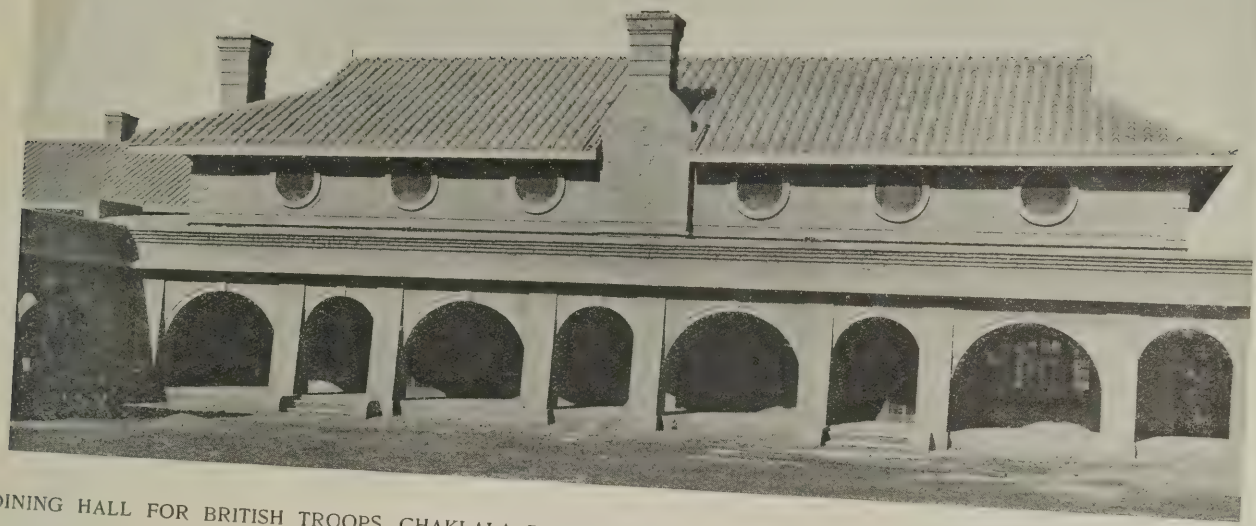
WILLIAMS BRIDGE OVER LEH RIVER, CHAKLALA, INDIA. MAJOR B. MATTHEWS, F.R.I.B.A., ARCHITECT.

Current Architecture. 52.—Dining-hall for M.T. Units, Chaklala Barracks, India

Major B. Matthews, F.R.I.B.A., Architect.



The old barracks in India are massive, barnlike structures, with double verandahs on each side, in which the occupants take their meals, and it is only in recent years that separate dining accommodation has been provided. In the Chaklala Barracks an attempt has been made to combine the barrack rooms and dining-hall in a definite lay-out. A full description of the work is given in the accompanying article.

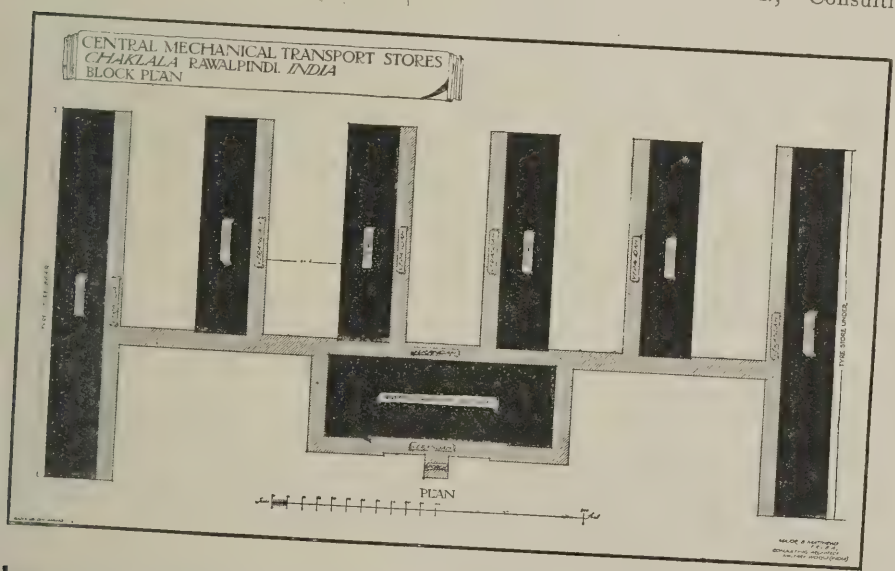


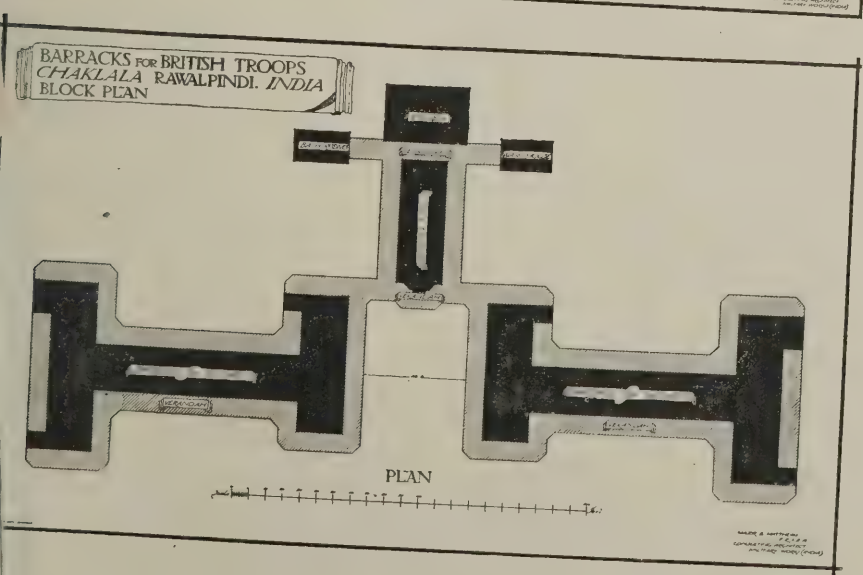
DINING HALL FOR BRITISH TROOPS, CHAKLALA BARRACKS, INDIA. MAJOR B. MATTHEWS, F.R.I.B.A., ARCHITECT.

been given to the washing arrangements, earthenware lavatory basins being fitted, and long baths in the bath-rooms. A circulating supply of hot water is laid on to the wash-houses and bath-rooms.

The kitchen accommodation consists of kitchen, scullery, preparation room for pastries, etc., grocery, fuel and meat stores, with cooks' clothes room, and mineral water bar. Electric lights and fans are installed, power being obtained from a self-contained plant.

The buildings were designed by Major B. Matthews, F.R.I.B.A., Consulting Architect for Military Works in India, and were erected under the supervision of the late Major R. J. Weston and Major W. H. Chaldecott, Royal Engineers.





R.I.B.A.

The following telegram was sent to M. Louvet, Paris, on the occasion of Mr. John W. Simpson's visit to Birmingham on November 19:

Louvet, Président Architectes Diplômés, rue de Grenelle, Paris.

Architectes Anglais réunis à Birmingham envoient salutations les plus cordiales a leurs confrères Français avec voeux sincère pour bonne santé de l'éminent président Louvet. Vive la France!

SIMPSON,
président Institute Royal.
BUCKLAND,
président Birmingham Architectural Association.

Proceedings of the Council.

The Building Trades' Parliament.—The Council have appointed Mr. A. W. S. Cross, vice-president, and Mr. James S. Gibson, Mr. Paul Waterhouse, and Major H. Barnes, M.P., members of Council, to represent the Royal Institute in the Building Trades' Parliament, the new constitution of which has been approved.

The Ministry of Health and Architects' Fees for Housing.—On the recommendation of the Practice Committee the Council have addressed the Ministry of Health, drawing attention to the fact that certain local authorities are putting pressure on architects with a view to arranging with them a rate of remuneration less than that of the scale agreed for housing work between the Ministry and the Institute, and calling upon the Ministry to maintain the agreed scale and resist any contrary action on the part of local authorities.

The Ministry of Health and the Stoppage of Building.—On the recommendation of the Stoppage of Building Committee the Council have addressed the Minister of Health and urged him to circularise all the local authorities to the effect that very careful consideration should be given to cases where the stoppage of factory or commercial buildings might be a cause for increasing unemployment among workpeople

who would otherwise be employed thereon. At the request of the Council Major H. Barnes, M.P., is moving an amendment to the Ministry of Health (Miscellaneous Provisions) Bill to provide for the representation of architectural bodies on the panels from which the Tribunals are selected.

The Board of Architectural Education.—The following have been appointed as advisory members of the Board of Architectural Education: Mr. Washington Browne, Edinburgh College of Art; Mr. Arthur J. Davis, Patron, First Atelier of Architecture; Professor E. S. Prior, A.R.A. M.A., F.S.A., Cambridge University; Professor Ramsay Traquair, McGill University, Montreal; Mr. Adrian Berrington, Toronto University; and Professor Leslie Wilkinson, Sydney University.

The Unemployment Insurance Act.—Mr. Maurice Webb has been appointed to represent the Royal Institute on the joint committee appointed to formulate a scheme for the formation of a Society for Architects' and Surveyors' Assistants under the Unemployment Insurance Act.

Licentiates' Examination.—The President called attention to the fact that the last examination to qualify Licentiates for the Fellowship had now been completed, and that Mr. A. W. S. Cross and Mr. James S. Gibson had acted as examiners for the whole of the examinations during a period of some ten years. A very hearty vote of thanks to Mr. Cross and Mr. Gibson was unanimously passed by the Council.

Reinstatement.—One ex-Fellow and three ex-Associates were reinstated.

R.I.B.A. War Memorial Competition.—The President submitted his award in this competition.

Competitions Open

Lockerbie.

War memorial; cost, £2,000. Apply Secretary, R.I.B.A. Closing date, January 31.

Llandudno War Memorial.

As a result of correspondence between the Competitions Committee of the R.I.B.A. and the promoters, the conditions of this competition are now in order, and there is no objection to Members and Licentiates taking part.

R.E. Memorial, Chatham.

War Memorial. Assessor, Sir Reginald Blomfield, R.A. Premiums, £200, £125, and £75. Apply Secretary R.E. Memorial Sub-Committee, R.E Institute, Chatham. (See our issue of November 24.) Closing date, March 17, 1921.

Licensed House in a Large Town.

With a view to obtaining suggestions for improving the existing type of public-house, the Court of the Worshipful Company of Brewers offers premiums of £300, £150, and £50 for the best design for a licensed house on a given site. Competitors must be Members or Licentiates R.I.B.A. The President has consented to act as assessor. Apply Secretary, R.I.B.A. Deposit, two guineas, which will be returned to all competitors submitting bona-fide designs. Closing date, January 31.

Temple of Memory.

A Temple of Memory. Competition open to architectural students from nineteen to fifty-four years of age, residing in the United Kingdom. Prizes £75 and £25. Apply Mr. C. J. Maclean, secretary, Alexander Thompson Travelling Studentship, 21, West George Street, Glasgow. (See our issue of November 10.) Closing date, April 15, 1921.

ENTRANCE GATES TO CENTRAL M.T. STORES, CHAKLALA, INDIA.

(See pages 636 and 639.)

East Ham General Hospital.

The East Ham Hospital Committee invite competitive designs for the erection of a general hospital in Shrewsbury Road, East Ham, at a cost of £40,000. Assessor, Mr. George Hubbard, F.S.A., F.R.I.B.A. The author of the design placed first will be appointed architect, and premiums of £75 and £50 will be awarded to the authors of designs placed second and third. Apply, Mr. Ernest Richardson, of "Montfitchet," 296, Katherine Road, Forest Gate, E.7. Closing date, February 25.

Gateshead War Memorial Competition.

Members of the Society of Architects are requested not to take part in the Gateshead War Memorial Competition(s) without first ascertaining from the Society that the conditions have been approved by the Council.

"Owen Jones" Prizes.

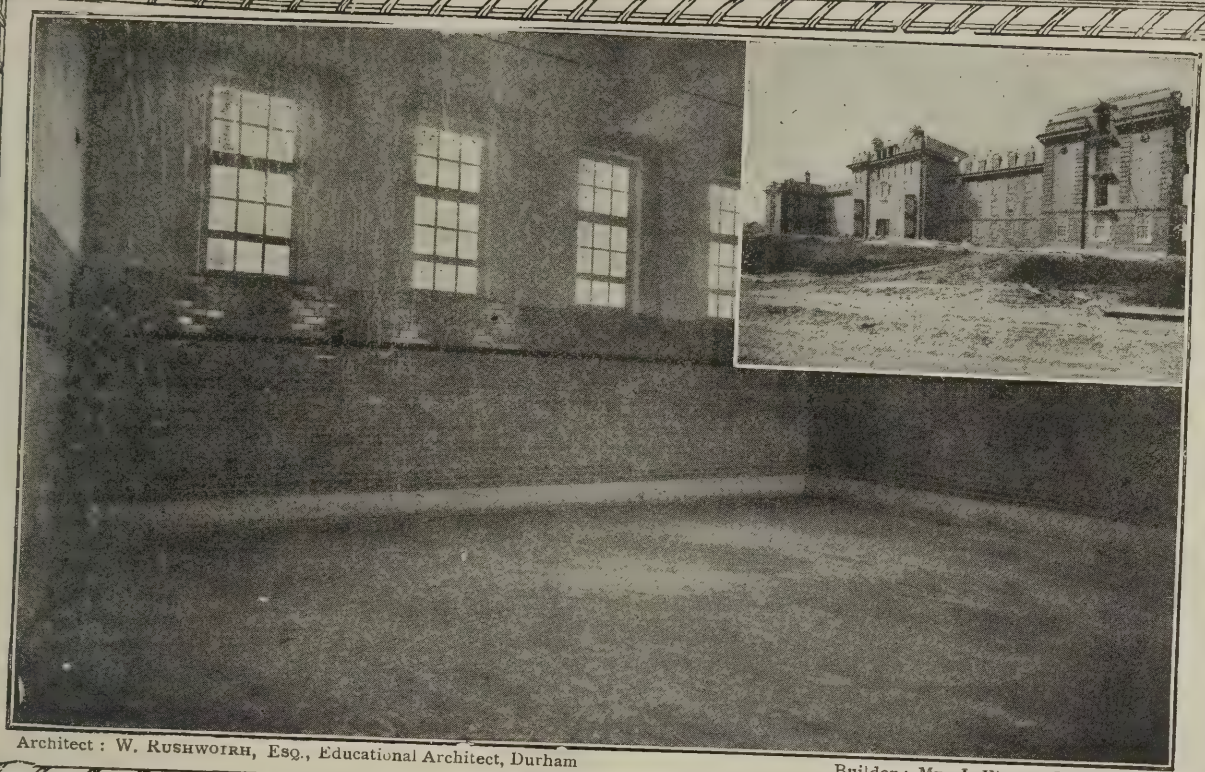
The Council of the Royal Society of Arts are prepared to offer six prizes in 1921 for the following subjects: Book production and ornamental leather work, including covers and lining papers for bookbinding, title pages, lettering, and printing, posters, trade labels, and advertisements; metalwork, including work in precious metals, ironwork, jewellery, enamelling, etc.; wallpapers and other mural decorations; textiles, including damasks (designs for bed spreads, table covers, cushion squares, and tea cosies will be eligible), brocades for decoration and furniture, printed fabrics for hangings, vestments and church fabrics (including altar frontals, etc.), figured velvets and figured muslins. Each prize will consist of the Society's bronze medal and a copy of a book or books on applied art, of a value not exceeding £2, to be selected by the successful competitor. In addition to the above prizes the Council offer a special prize of £20 for the best design irrespective of class) submitted for competition. No candidate who has already received an Owen Jones prize for any of the above-named manufactures can take part in the competition. Designs must be sent, carriage paid, and labelled "Owen Jones Prize Competition" on the outside, to the Director and Secretary, Victoria an Albert Museum, South Kensingtor S.W.7, between June 20 and June 2.

The Advertising Exhibitio

The International Advertising Exhit tion, held at the White City last week, w not strictly confined to an exhibition advertisements; it also had on view ma of the actual things advertised. This, contend, should not have been. An a vertisement is an advertisement, and t article to be advertised is the article to advertised, and if the promoters had dra the distinction the affair would have be of more interest. As it was, the adv tisement pages of an American magaz or a half-hour's wait on a big railw station would have shown much more the possibilities of the business.

But what a romance there is in it! H some of the "classics" remain fixed ever in the mind! Famous soaps, famous ink, matches—what homely pleasant memories they are! And picture of the monkey, which foun quicker to say what its brand of s would *not* wash than what it would! came upon most of them again at White City—met them as friends: dinal Wolsey, the elderly gentleman quizzing glasses and red coat and boots, Sedan chairmen, and the skipper. But many there were whicl missed, and many with which we bec acquainted for the first time.

"Trade" advertisements were ra few. "Paripan" was represented by section of a luxurious first-class rai carriage treated with "Paripan," "Solignum" had a fair-sized painted and stained with that material side and in. The famous poster o man painting the back of the man ing the back of the poor man who h one to paint with Hall's Sanitary V able Distemper was also there. I vertisers' House, too, we noticed Hoover Suction Cleaner, the Rich Stove, Benham and Son's Electric Rail, the Ideal Radiator, the Eagle R the Quicksey Kitchen Cabinet, the F Fire Extinguisher, the Crowe Refrig and Electric Iron, the Anglo-Americ Company, an electric cooker by the I Electrical Transformers, and electr tings by Messrs. Doughty, Ltd.



Architect: W. Rushworth, Esq., Educational Architect, Durham

Builder: Mr. J. White, Sunderland.

REGD. PUDLO BRAND
CEMENT WATERPROOFER

The Gymnasium of the Training College for Women, Neville's Cross.

BASEMENTS AND FLOORS.

This room and two heating chambers, being partly underground, were flooded, but after being treated with cement which was waterproofed with 'PUDLO' Brand powder, they are dust dry.

When this remarkable powder is included in the usual cement rendering or in concrete, in varying proportions, according to the purpose for which it is required, it absolutely prevents the penetration of dampness and moisture. It positively stops all leakages. It makes cellars and basements, even when built alongside the water's edge, perfectly dry. It holds back the dampness which rises in concrete floors. It ensures that reinforced concrete is absolutely damp-proof. It allows flat roofing to be done in cement. So thoroughly and remarkably does the powder impregnate cement that no moisture can creep in, or penetrate the waterproofed cement mixture.

SIMPLE, ECONOMICAL, SAFE.

Send for descriptive booklet—free.

Used also for Damp Walls Leaking Tanks, Reservoirs Baths, Garage Pits, Concrete Buildings, etc.
Used by the Admiralty, the War Office, the India Office, the Crown Agents, the Office of Works, the General Post Office, etc.
Tested by Faija, Kirkcaldy, Cork University, the Japanese, Dutch and Spanish Governments, and eminent experts.

BRITISH! and apart from patriotism, THE BEST.

Sole Proprietors and Manufacturers, Kerner-Greenwood & Co., Ltd., Ann's Place, King's Lynn.
J. H. Kerner-Greenwood, Managing Director.

Better results with Greater Speed

BY USING

"SX" BOARD

For CEILINGS and WALLS.

"SX" Board is the thing for the Moment! Many housing schemes are held up for plastering. Everything else is ready, but the interiors are bare—and tenants are waiting to come in. Rents are being lost.

Line these houses with "SX" Board and save any further delay. "SX" Board is rapidly erected and ready when fixed. No great skill is called for, no special tools required. Any handyman can fix "SX" Board. Here is an opportunity to employ the services of ex-Service workmen.

Specify only the "SX" Board, the British-made Wallboard—light, tough, rigid, fire-resisting, with an attractive white matt surface.

"SX" Board gives wide scope for beautiful and original decorative effects. It will take distemper, paint, varnish, enamel, etc.

Specify "SX" Board.

The British Made Wallboard for Ceilings and Walls.

MADE AT

THAMES MILLS

PURFLEET — ESSEX

J. E. TINDALL

The Week's News

A Gloucestershire Architect's Will.
Mr. Matthew H. Friedland, of Painsick, architect, left £2,039.

Secondary School for Wombwell.
A proposal is afoot to erect a secondary hool at Wombwell.

New Picture Theatre for Bath.
A new picture theatre, to seat 800, is ing erected in Westgate Street, Bath.

Willesden New Town Hall.
Willesden U.D.C. have bought the site a brewery for their new town hall.

Blackburn Garden City Scheme.
Blackburn's municipal housing scheme vides for the erection of 500 dwellings garden city lines.

Housing at Cardiff.
Twenty-one of the houses in Eldon-et are already occupied and eight at nachty, out of a total of over 700.

Newton Abbot Housing.
ewton Abbot U.D.C. have received the tion of the Ministry of Health to a of £32,000 for housing.

Kingston Housing Scheme.
ingston T.C. have decided to borrow ,000 for housing purposes from the ey County Council.

Stratton and Bude Housing.
atton and Bude U.D.C. have resolved pply to the Ministry of Health for ion to a loan of £22,000 for houses.

Housing at Margate.
irty additional houses are to be ed under the Corporation housing ne at a total cost of £26,146.

Death of Mr. J. M. Pinn.
regret to announce the death of Mr. M. Pinn, of Exeter, architect, at the f eighty-four.

New Dwellings for Dewsbury.
vsbury T.C. intend to build 700 ngs to cost £750,000. A sewerage vement scheme, involving £300,000, to be undertaken.

Concert Hall for London.
rovisional licence has been granted London County Council for a new t hall in Oxford-street to cost somelike £1,000,000.

Alloa War Memorial.
Robert Lorimer, Edinburgh, is at n the war memorial, which is in the f a cenotaph, for Alloa. The total estimated at £3,500.

ndsworth's Housing Schemes.
is to be found for a number of exmen on the Council's housing s, which are for 359 houses to cost o.

Newton Housing.
ddison, Minister of Health, has e corner-stone of the first of the to be erected on the Milber site. eme will comprise 240 houses.

arnet and Direct Labour.
U.D.C. have decided to build ee houses, in addition to the nt now in course of erection, on rhill site, by direct labour.

Colwyn Bay Houses.
on the erection of twenty-two r the Colwyn Bay U.D.C. has commenced. The Council have acquired land sufficient for seventy houses, and laid drains and constructed roads.

Housing at Deal.
Deal T.C. have submitted the plans of the thirty-six houses to be erected at Upper Deal to the Ministry of Health for approval.

Dundee Housing Scheme.
Tenders amounting to £90,685 for the erection of one hundred houses in connection with the Stirling Park scheme have been approved by the Housing Committee.

New School for Ayrshire.
The design for the new school at Maybole, Ayrshire, is by Mr. J. K. Hunter, architect, Ayr. An early commencement of building operations is to be made by the Education Authority; the outlay will be £40,000.

Office of Works and Housing Scheme.
Sheerness U.D.C. have decided to apply to the Ministry of Health for sanction to borrow £153,000 for the erection of 156 houses under the Housing Act, and for sanction to accept the offer of H.M. Office of Works to undertake the erection of the houses.

The Cost of Houses.
Dr. Addison has stated in the House of Commons that houses had been approved at prices ranging from about £600 each to about £1,200 each. The former usually contain a living-room, scullery, two or three bedrooms, and offices; the latter a living-room, parlour, scullery, four bedrooms, and offices.

Acton Experiments in Concrete.
Experimental concrete houses are being erected at Acton at the invitation of the local council which will show several different methods of construction. The houses are of the type of workmen's dwellings approved by the Ministry of Health, and erected in conformity with official designs.

Housing at Yeovil.
Yeovil T.C. have decided to apply to the Ministry of Health for sanction to a loan of £102,900 for the erection of ninety-nine houses and street and sewer works on the Higher Kingston estate. The first scheme of forty-four houses, in addition to the hundred odd erected before the war, is nearing completion, and work on the new estate has already begun.

Privately Built Houses.
Sanction to proceed with the construction of 967 houses was granted to private builders during the week ended November 19. The total number of houses for which Certificate "A" has now been issued is 25,544. The total commitment of the Government in respect of these houses is now £6,183,151. The number of houses completed under the terms of the grant is now 3,883 (of which 327 were completed last week), and the sum of £871,178 has been paid to the builders.

Gainsborough Hospital.
The stone-laying ceremony in connection with the hospital extension has taken place. The two-storey extension includes an equipped out-patient department, a second operating theatre, electrical department, and other necessary rooms. All of these are on the ground-floor. The upper storey is a nurses' home and contains two sitting-rooms and nine bedrooms. The architect is Mr. T. Tatam, Gainsborough, and the contractors are Messrs. Bernard Pumfrey, Gainsborough.

Victoria and Albert Museum.
A loan exhibition of tapestries, carpets, and other textiles has been arranged in the North and South Courts of the Victoria and Albert Museum. These courts have been recently vacated by the clerical staff of the Board of Education, which has been occupying them during the war. The exhibition will remain on view until early in January, 1921.

Scientific and Industrial Research.
Sir John Francis Cleverton Snell, member of Council of the Institution of Civil Engineers and Past-President of the Institution of Electrical Engineers, has been appointed, by an Order of Council dated November 23, 1920, to be a member of the Advisory Council to the Committee of the Privy Council for Scientific and Industrial Research.

Sir W. Mather Leaves £405,800.
Estate of the value of £405,800 has been left by Sir William Mather, of Bramble Hill Lodge, Bramshaw, Hants, chairman of the iron and engineering works of Messrs. Mather and Platt, of Salford. Deceased was Liberal M.P. for the South Division of Salford, 1895-6, for the Gorton Division of Lancashire, 1889-1895, and for the Rossendale Division from 1900-1914. He died in September, aged eighty-two.

A Chalk Bungalow and the Subsidy.
A chalk bungalow built at Kenley is the subject of dispute. It is an annexe to a house, connected by a corridor, and the local Council could not see that this was a new house for subsidy purposes. The owner has decided to do away with the corridor, but, as he will continue in occupation of both buildings, the Council maintains its refusal, though the London Housing Board apparently favours issue of the subsidy certificate.

Housing Bonds Campaign.
Favourable reports continue to be received from the various provincial centres with regard to the progress of the Housing Bonds campaign. At Newcastle-on-Tyne the amount invested now totals £492,084. Ipswich has invested £150,232, Woking £56,975, and Ealing £45,000. At Bilston, Staffordshire, the subscriptions received last week included £1,000 from a Foresters' Lodge.

Proposed New London Tenements.
New tenements, fifty-four in number, are recommended by the Housing Committee of the London County Council for erection, at a cost of £55,000, on the Tabard Garden estate. The Finance Committee state that a lift is to be installed in the nature of an experiment, the result of which may have a bearing upon the question of the height to which other blocks of dwellings should be erected.

Blandford Sewerage.
At the inquiry held by the Ministry of Health into the application by the Blandford Forum Council for sanction to borrow £27,600 for works of sewerage and sewage disposal, it was stated that the Council desired permission to defer the carrying out of the scheme for the present owing to the rise in prices and the need for

economy. The engineers, W. H. Radford and Son, of Nottingham, explained the scheme to the inspector.

R.E. Re-union Dinner.

The re-union dinner of ex-members of the 518th (4th London) Field Company, R.E., will be held at the Veterans' Club, Bedford Square, W.C., on January 15, 1921. Tickets, price 7s. 6d., on application to Maj. L. H. Fisher, M.C., R.E. (T.), 14, Queen Street, Cheapside, E.C.4.

Progress of Housing Schemes.

New housing schemes submitted to the Ministry during the week ended November 27 numbered thirty-eight, bringing the total number of schemes submitted to 11,361. The schemes approved now number 8,597, and comprise about 563,712 acres.

Fifty-two lay-out schemes were submitted, and forty-four were approved during the week, bringing the total number of lay-outs submitted to 6,765, and number approved to 6,178.

House plans, representing 2,343 houses, were submitted, and plans for 2,116 houses approved. The total number of houses represented in all plans now submitted is 277,630, and in the plans approved 261,368.

During the week tenders were submitted for 2,714 houses. Tenders for 2,372 were approved, bringing the total number of houses in tenders submitted to 175,670, and in tenders approved to 161,909. Contracts have been signed for 129,045 houses.

Publications Received

"Industrial Housing." By Morris Knowles. Price 30s. net. McGraw-Hill Book Company, Inc., 6 and 8, Bouverie Street, E.C.4.

"Modern Sanitary Engineering." Part I.—"House Drainage." By Gilbert Thomson, M.A., F.R.S.E., M.Inst.C.E., Lecturer on Sanitary Engineering in the Royal Technical College, Glasgow. Second edition. 16s. net. Constable and Co., Ltd., 10 and 12, Orange Street, W.C.2.

Correspondence

St. Paul's Bridge and the R.I.B.A.

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I am sure you will like your readers to know the facts with reference to the above matter. In your last issue, page 590, you state: "The Institute's recommendations were not accepted." Mr. Mooney, the Chairman of the Parliamentary Committee, stated in the House of Commons he "personally invited the architects to come before us, and they declined to do so." He also said: "Is it fair that the Committee should suffer because architects have failed in doing their duty? The Institute of British Architects did not appear before the Committee, although every chance was given to them to appear." (Parliamentary Debates, Official Report. Vol. 26. No. 85, page 1640.) The Report is in the R.I.B.A. library, and some extracts were published in the Journal of July 27, 1912, p. 640.

"The Corporation Surveyors," you refer to who advocated the scheme approved by Parliament were Sir William Emerson, Mr. T. E. Collcutt, and Sir John Burnet, all excellent surveyors, and men who might well claim to represent the Royal Institute of British Architects. F.R.I.B.A.

Trade and Craft

Fiberlic.

An extremely interesting illustrated booklet has just been issued dealing with the various uses and advantages of Fiberlic, a "root fibre" wall-board, large supplies of which are now available. The primary use of Fiberlic, which is made from very long, tough, fibrous roots, is as a substitute for lath and plaster for walls and ceilings. The wallboard is nailed on to the studding—in the case of brick the wall would be battened—and all that is necessary is to nail down each edge. To cover the joins moulded strips, picture or dado rails are used, and may be arranged to give an artistic inexpensive panelled room with a cosy appearance. No paint is required, and bright and warm effects may be obtained by paint, distemper, enamel, or stain, etc. Fiberlic wallboard is made in two thicknesses—i.e., standard, about 3-16 in. thick, and heavy about 5-16 in. thick, and is specially recommended for bungalows, villas, cinemas, hospitals, factories, offices, etc. Fiberlic is approved by the Ministry of Health for State-aided housing schemes, and was awarded a Diploma of Excellence by the Corporation of Glasgow at the Housing and Health Exhibition held at Glsagow in November, 1919.

Maple Flooring.

During the skating rink craze some few years ago, while manufacturing thousands of feet of maple flooring for rinks, Messrs. R. G. Tickle and Son, Ltd., took note of the possibilities of this light-coloured, close and smooth-grained hardwood for use in factories, mills, schools, and other buildings where a good tight and durable floor is required. That the view of the company was a correct one has been amply justified by the ever-increasing quantities supplied—not only for new floors, but also for the re-covering of softwood floors unable to stand rough wear and tear. Messrs. Tickle state: Various improvements have been introduced in the manufacture and grading, and the fact of the ends being matched (i.e., tongued and grooved) not only ensures minimum waste in laying, but gives the advantage of using short lengths which are produced by the cutting out of bad knots and defects, thus ensuring a standard of good quality throughout. Because of the modern method of laying, and the improved nail now used, boring of matched flooring is not considered of practical value, and manufacturers have therefore discontinued the practice. The chief standard sizes are 1 in and $1\frac{1}{4}$ in. nominal thicknesses, and 3 in., 4 in., $4\frac{1}{2}$ in., and $4\frac{3}{4}$ in. widths. Full particulars with regard to this excellent flooring material may be obtained from Messrs. R. G. Tickle and Son, Ltd., timber importers, of Blackstock Street, Liverpool.

Gas Fires and Interiors.

The Davis Gas Stove Company, Ltd., of 60, Oxford Street, London, W.1, have sent us a copy of their new season's gas fire catalogue, together with a copy of a folder dealing with their gas interior fires, which are illustrated in appropriate ma settings. The many distinguishing featu in design and construction have est lished for the Davis new series of gas f a notable reputation amongst engineers. Apart from the inevitable va tion in outward design, the new series f differ also from the Davis "A" patt (the original hygienic series) in the tour of the radiating surface, the cu front being substituted in the new patt by a rectilineal arrangement of the pillars. This improvement is accompa by the employment of the Davis inte flame burner, the constructional feat of which are claimed to ensure silent bustion, and to result in a substantia crease in heating power per flame. And feature of the new series fires is the fit in each case, except in that of the "N. gas interior and mantel registers, brightly-polished trivet, the surfac which enhances the beauty of the fir presenting a mirror-like reflection of radiating surface. A perusal of the trations in the folder cannot fail to gest the many charming decorative sibilities of Davis high-grade gas whether of the self-contained or of th terior type.

Electric Lighting and Heating.

A Magnet electric log fire, known a "Ideal," which gives a cheery, con able, and realistic imitation of a sta burning tree logs on an iron cradle s has just been placed upon the mark the General Electric Company, Ltd Queen Victoria Street, London, E The logs are permanently placed in tion, and the heat is controlled by a s on the wall, the consumption being two units per hour. Another new ture for the economical, cleanly, an cient heating of rooms, halls, etc., is the Magnet multi-way pe heater, many new designs for whi now being produced by the compan which have many distinguishing fea The "City" lantern for the lighti main thoroughfares, open spaces, trial yards, railway stations, and t terior of public buildings such as halls, theatres, cinemas, etc., has specially designed for use with ga lamps. Special advantages claimed company for the "City" lantern inc wide distribution of light, facilit easy adjustment and cleaning, ventilation, and watertight and subs construction. The company have issued a catalogue dealing with in and street lighting. This catalo addition to giving representative of industrial fittings suited for mos tions met with in modern illum engineering practice, contains a collection of illuminating engineerin together with simple instruction planning lighting schemes. Actual ence and tests with the fixtures d have formed the basis for this secti adequate illumination of streets a spaces has formed the subject of p scientific investigation, and afte experiments the gas-filled lamp—e the Osram gas-filled lamp—is re as exceptionally suitable for this A selection of rain-proof lanterns from small units for suburban dis the "Boro" and "City" capable of taking 500 and even 1, lamps for use in main thorough also shown. The many new embodied in the "City" lantern of interest to those requiring a hi street-lighting unit.

No. 54.

BUILDING MATERIALS

We shall be glad if you will send us your enquiries, and would ask you to put our name on your buyers' list for materials used.

Cement, Limes, Bricks, Partition Blocks, Tiles, Slates, Chimney Pots, Sanitary Ware of all kinds, Pipes, Gullies, Interceptors, Fire Bricks, Fire Clay, Fire Cements and Refractories of every description. Acid-Resisting Goods, and Acid Cements, also "Fiberlic" the root Fibre Board, Asbestos Sheets and Tiles. "Sank" brand Paints and Distempers.

We deliver by our own lorries 50 miles round London, and by vessel or truck to any Port or Station in the United Kingdom.

ESTABLISHED 1857.

J. H. SANKEY & SON, LTD

Telephone East 1061.

HEAD OFFICE:
Essex Wharf, Canning Town, London, E.16.

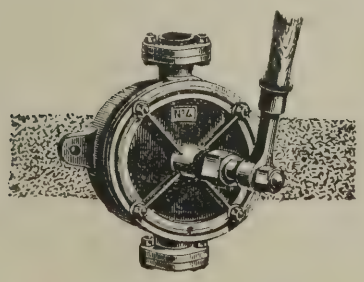
PUMPS

Willcox's SEMI-ROTARY "WING"

For House and Estate water supply, and general lifting and forcing. Double or quadruple action. Mounted or unmounted.

Other Specialities: Diaphragm Pumps for Trenches, Excavating, etc.; "Jones-Willcox" Patent Wire-bound (non-rubber) Hose; "Penberthy" Automatic Cellar Drainers.

Let us quote for your requirements.



W. H. Willcox & Co. Ltd.
32-8, Southwark St., London, S.E. 1.

IN THE PRESS.

Specification 1921

THE STANDARD WORK OF REFERENCE FOR ARCHITECTS, SURVEYORS, AND CIVIL ENGINEERS.

Edited by
FREDK. CHATTERTON, F.R.I.B.A.

Specification is as necessary to the Architect as an encyclopædia is to the man of letters. It comprises in a single volume a vast amount of technical information. Moreover, the information is exactly what the Architect requires when he is preparing his specification.

The Special Articles which will appear in the 1921 issue are:—

1. ECONOMIC COTTAGE BUILDING (Illustrated), by Percy J. Waldram, F.S.I.
2. HINTS ON SPECIFICATION WRITING (Illustrated), by T. Sumner-Smith, M.Q.S.A.
3. ARCHITECTURAL ACOUSTICS (Illustrated), by H. Bagenal, A.R.I.B.A.
4. THE DESIGN AND CONSTRUCTION OF STRONG ROOMS (Illustrated).
5. CAUSE AND PREVENTION OF DRY ROT IN TIMBER (Illustrated).
6. THE PROGRESSIVE APPLICATION OF GAS IN THE MODERN HOME, by H. H. Creasey.

Every edition for the last seven years has been completely sold out, and the Publishers would suggest that intending purchasers should place their orders as early as possible.

SPECIFICATION 1921
Price 10/6 nett. Postage 1/- extra.

TECHNICAL JOURNALS, LTD.,
27-29, Tothill Street, Westminster, S.W.1.

CONTENTS.

Edited by PROFESSOR A. E. RICHARDSON, F.R.I.B.A.

Office of Works as Architects and Contractors, 645; The Building Trades Parliament; Gothic Sky-scrapers; Pictures in Schools; Architecural Students' Costume Ball; St. Paul's Bridge and a Suggestion; Fees Under Housing Schemes 646

Rebuilding Louvain University ... 647

Architectural Causerie: About the Scillies. By Aero 649

Saracenic Architecture in Egypt and Palestine. By Martin S. Briggs, F.R.I.B.A. 650

Mr. W. E. Riley on London City Churches 657

Correspondence 658

Library Architecture. By Professor A. E. Richardson, F.R.I.B.A. ... 663

Enquiries Answered 663

R.I.B.A. Council Meeting: Presentation to Mr. Lewis Solomon ... 664

Book Notices 664

Wealdstone Housing 667

A New System of Concrete Cavity Walling 668

Concrete Institute Dinner 668

Henry Saxon Snell Prize 669

The Modern Aladdin's Lamp ... 669

Law Reports 669

The Week's News 670

Current Prices of Materials xix

Complete List of Contracts Open ... xxii

Coming Events xxvi

ILLUSTRATIONS:

The Earl of Burlington 643

Modern American Architecture. 10.—The Woolworth Building, New York. Cass Gilbert, Architect 644

Mr. Whitney Warren 647

Louvain University: The Ancient Cloth Hall As It Was Before the War 647

Interior of Louvain University Library As It Was Before the War 648

The William McKinley Memorial, Niles, Ohio 649

Portrait of Mr. Martin S. Briggs, F.R.I.B.A. 650

Saracenic Vaulting Fan Vaulted Porch to a School i Jerusalem. From a Drawin by W. Harvey ... ...

Entrance to the Bath of the Em Beshtak, Cairo ... ...

Carved Stone Screens from th Sangar El-Gwuli Mosqu Cairo ... ...

Musharabiya Window, Cairo

Modern French Architectur 6.—Commercial Building, 1 Rue d'Uzes, Paris. Rouli Architect .. ..

Architects' Working Drawing 22.—Detail of St. Anselm Church, Kennington, Londo Adshead and Ramsey, F. a A.R.I.B.A., Architects ...

Key-Pattern Borders ...

Italian Villas. 3.—Select Examples from Scheult

Moulding Enrichments ...

The Hayes System of Concre Cavity Walling: Details Shuttering ... ...

SPEEDING-UP.

SPEEDING-UP is attaining the end desired in the shortest possible time. If you need material and service in any constructional work—then an enquiry to us, letter, 'phone or wire, is the first step to speedy satisfaction of your needs. We have seen to it that this promise can be fulfilled.

Stocks of
British Standard Sections in Joists, Channels, Angles, Tees, Flats, etc.

DAWNAY DEFINITIONS—2.

ARCHIBALD D. DAWNAY &

Telephones: Battersea, 1094. (3 lines).

Steelworks Road, Battersea, S.W.11

Teleg "Dawnay, Lond

Telephone: Cardiff, 2557

And at East Moors, Cardiff.

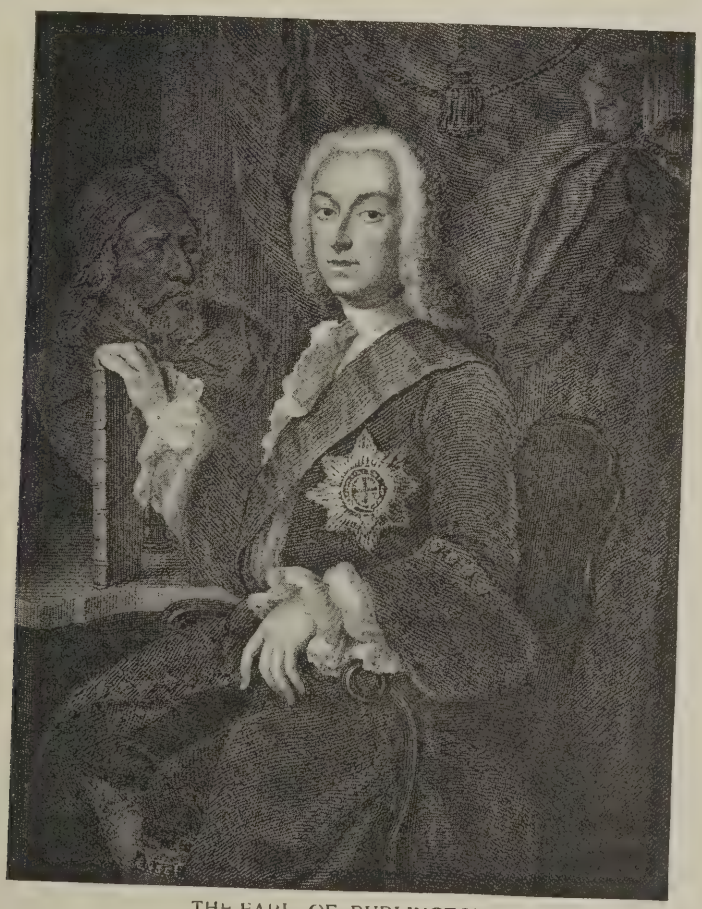
Teleg "Dawnay

dnesday, December 15, 1920

Volume LII. No. 1354

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



THE EARL OF BURLINGTON.

Richard Boyle, Third Earl of Burlington (1695-1753), was the greatest patron of architecture during the eighteenth century, and a notable amateur architect. His earliest project took shape about 1716—the alteration and partial reconstruction of Burlington House, Piccadilly, though Campbell, in "Vitruvius Britannicus," claims credit for this design. Burlington supplied designs for various buildings, including the Assembly Rooms at York (built at his own expense), Lord Harrington's House at Petersham, and the dormitory at Westminster School. William Kent, who met the earl while travelling in Italy, secured many commissions through his influence.

27-29 Tothill Street, Westminster, S.W.1.

Modern American Architecture. 10.—The Woolworth Building, New Y

Cass Gilbert, Architect

At our special request, Mr. Cass Gilbert has been good enough to forward a series of photographs of his work, of which we publish the first example above. The Woolworth Building is too well known to require lengthy description, but it may be said that the exterior, in the lower stories, is of Indiana limestone, and, above the fourth storey, of an ivory-coloured semi-glazed terra-cotta, containing rich polychrome decoration. The roofs are of copper of a turquoise colour richly illuminated with gold. The total height of the building from the lowest point of the sidewalk to the highest point of the tower is 796 feet.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

nesday, December 15, 1920 Volume LII. No. 1354

ffice of Works as Architects and Contractors

N a letter published in "The Times" of December 7, Mr. John W. Simpson, President of the R.I.B.A., deals trenchantly with what he calls the "predatory ambitions" of the Office of Works. "You allowed o point out, in April last," he reminds the editor to n his letter is addressed, "that cottage building could rried out almost entirely by labourers; a statement n Dr. Addison dismissed as 'all rubbish.' We now ver that the Office of Works is to employ not build-rade labourers only, but men who have no know-e at all of building-trade procedure. Moreover, the oyment is to be 'direct'—i.e., without the interven-of a contractor, whose profit is limited, in housing acts, to a fixed and not always remunerative nt." Although the "all rubbish" reference is a neat and a fair enough retort, it rather wears the appear-of reprisal, and therefore had better have been ed. Mr. Simpson's statement would have been ger without it. Where the main argument is so rful, there is no need to score with a mere debating; but, keen swordsman that he is, the President ble to resist the opportunity to make a palpable hit. e main issues are—(1) whether it is against public for a Government Department to turn itself, even orarily, into a trading concern; (2) whether the of Works is, or is not, unduly inflating itself by ging its functions; (3) and whether this expansion largement is likely to be beneficial for the commu-and, more particularly, for architecture. If the lent had, in his letter, concentrated attention on three points, he would, we think, have made out se more effectually: and he could afford to sacrifice of its brilliancy. So plain an issue needs no ric, "needs not the foreign aid of ornament." With ct to (1) the President is indubitably correct in ng that the community has no liking for "this new le thrown out for strangling private enterprise in ng." For a Government to compete in business st private traders is irrational and immoral. It is ke a man contribute towards his own undoing.

bert Spencer, Mr. Frederic Harrison, and other publicists, long ago smashed the fallacy of over-g the Government with administrative and execu-ork, whereas its functions should be essentially tive; yet once again, in spite if its many inglorious tures in huckstering and trading, both before and the war, lo! here we have it meddling wholesale vork that, as it should have learned from bitter ence, it ought never to undertake. The Office of s, as Sir Alfred Mond obligingly puts it, is "to act nt for the Ministry of Health, and, in conjunction hat Ministry and the local authorities, to undertake ber of housing schemes for these authorities in the ty of both architects and contractors." The Presi-hows that this "agency" is anomalous and illegiti-

It is an extraordinary position for a Government Department to assume—that of agents, architects, contractors, universal providers to local authorities that find themselves unable or unwilling to get on with their housing. Whether the scheme succeeds or whether it fails, the result will be untoward. It will probably fail—for, with Mr. Simpson, we "decline to believe that anyone—least of all a Government Department—can carry out building of any magnitude as cheaply as a skilled and reputable contractor." There is here, as Mr. Simpson does not fail to note, a psychological element of great importance. As he says, any experienced builder will confirm—what, indeed, is common knowledge—the phenomenon "that men work better when they know their employer depends on their exertions for his living than when a lesser output does not touch his pocket." It would be easy, but is quite unnecessary to elaborate this branch of the argument, but it is quite sufficient to affirm once more the indisputable fact that official building does not pay. But supposing it did "pay," what, then, would become of the private trader? It is impossible for the Government to escape impalement on one of the horns of this dilemma. They will say, of course, that when they have achieved their immediate object of lifting housing out of the ditch, they will withdraw from further competition with the unofficial architect and the private trader. But disbandment of the professional units of the industrial army they are about to create could not be accomplished quickly and painlessly, and their retention must involve much waste; and already the staff of the Office of Works is about double its peace-footing strength.

The last paragraph in Mr. Simpson's letter has in it a deadly explosive force. Sir A. Mond stated that the Office of Works would act as "architects and contractors." "The nature of the 'contract,'" Mr. Simpson remarks, is not defined, but Sir A. Mond's explanations "seem to indicate that it is no more than an 'estimate,' which may or may not accord with the eventual cost to the local authority. One of the most important duties of an architect is to supervise the work of the contractor and protect the interests of his employer. Will the Office of Works condemn defective work in its own buildings? At whose expense will it be made good?"

As to whether (2) the Office of Works is unduly inflating itself there can be only one opinion among architects who are not kept on chain and trained to feed out of the hand. "Tied" architects cannot be expected to produce anything but tame and spiritless architecture. It follows that (3) the expansion of official architectural departments is undesirable in the interests of art as well as in other respects. This is not the fault of the men, but of the system. Architects of the highest ability hold official appointments, but, as Mr. John Slater says in a letter published simultaneously with that of Mr. Simpson, "Under such an arrangement you may get fairly good work, but never the best, and the whole tendency is to

cramp and deaden the spirit of architecture rather than to widen and vivify it." Art flourishes best in a free atmosphere. On these and other grounds, we have no hesitation in condemning the new movement as foredoomed to be uneconomic, inefficient, reactionary, and altogether undesirable. A Ministry of Health ought to know better than to encourage so unwholesome a regimen.

The Building Trades Parliament

It is no longer just to complain of this title, to which we had many times objected because a "Builders' Parliament" in which architects were not represented was a glaring misnomer. It is now announced that the Council of the Institute have appointed four of their members—namely, Mr. A. W. S. Cross, Mr. James S. Gibson, Mr. Paul Waterhouse, and Major H. Barnes, M.P.—as their representatives in the Building Trades Parliament, the new constitution of which has been approved. If this step had been taken when the so-called Parliament was in process of formation, much serious trouble would have been avoided. It was idle to expect that, on any important clash of interests, two equally balanced opposing forces could do otherwise than arrive at what is conveniently termed "a position of deadlock"; and this, of course, is exactly what happened at the very first opportunity. The presence of architects should bring to the counsels a bland emollient temper, and an independence of judgment, that must go far towards preventing mere conflict for contention's sake. But whether or not the architect members become an effective force in swaying debate and decision, their mere presence in the Builders' Parliament is a step towards the much-needed federation of the industry—a step beyond mere "unity of the Profession."

Gothic Skyscrapers

The recent visit of Mr. Cass Gilbert to London recalls the wonderful things which that distinguished American architect has done with skyscrapers. He was, we think, the first to succeed indubitably in investing them with architectural effect. He has done it in several ways—by modifying their shape, improving their texture, imparting to their exteriors a Gothic treatment for which more than a slight hint was derived from Pugin's adventures on the Houses of Parliament at Westminster. This was a daring thing to do, and Mr. Cass Gilbert has done it so successfully as to make the skyscraper a thing of beauty. He saw quite clearly that to make the skyscrapers presentable it was necessary to break up their flat surfaces, and under his magic wand they have burst into modern Gothic. It was a stroke of genius. Cass Gilbert has achieved the impossible. He has beautified the skyscraper, and, incidentally, New York City also.

Pictures in Schools

School-room walls should be educative. In fact, they nearly always possess this quality; but, unhappily, the instruments or the agencies of education may be good, bad, or indifferent, and it must be confessed that the pictures on the walls of most London schools are mostly bad. Nine out of ten of them should be taken down and ruthlessly destroyed. That is about the proportion in which they are training the eyes of the young to tolerate inferior art, and are therefore evil instruments of education. A leader-writer who deals with this subject in "The Times" Literary Supplement, but not quite on the lines of the present note, would have received more respectful attention if his article had looked less like a diatribe against engravings after Landseer. For example: "The subject does not matter much, provided it speaks to the eye as a tune to the ear. But there is no tune in a picture by Landseer, let alone an engraving of it. It is, as we say, an ugly thing in itself; any wall would look better without it." Fastidious, hypercritical, and prejudiced objections are not very helpful in matter. Superciliousness invariably provokes oppo and discredits the cause it is intended to support. M over, the leader-writer, in his eagerness to vilipend L seer, fails utterly to see the charm that artist has children. It is, we grant, a meretricious charm, dep ing largely on giving a human expression to the fac dogs and horses, but it nevertheless produces delig the childish mind. Undoubtedly, however, the walls of the Council schools of London are in a deplo condition, harbouring ill-chosen and badly-disp pictures that, for the most part, should be remorsel scrapped. It is a point on which education autho are badly in need of architectural guidance. No pi should be tolerated in a public school without first pa the censorship of a competent art committee, of whi least one architect should be a member.

Architectural Students' Costume

We have heard a whisper that the architec students of London are combining in the design of s thing extra-special in the way of a costume ball. T are rumours of architectural decorations in the cl spirit, and hints of a purely Pompeian scheme. Wh the ball is held at Covent Garden or at Chelsea, we w unqualified success, both artistically and as a matt hard cash. Such ebullitions are of considerable val showing that our young architects are alive, and warm blood in their veins. Whether there is also to revelation of true artistic taste that will convinc apathetic public that there is more in the architect they had imagined will in this instance depend o skill with which the atmosphere of bright-col Pompeii is conveyed to London Town ("'convey wise it call!") The idea is distinctly good, being r opportunities which we are confident our young b will seize adroitly.

St. Paul's Bridge and a Suggesti

In the House of Commons last week, the I Minister was asked whether his attention had been to the proposal of the City Corporation to proceed the new St. Paul's Bridge at a cost of £4,000,000 whether the Government would use their influence the Corporation to secure the use of the Bridge I Estates money on a part of the river where a new b was more urgently needed in the interests of Lo traffic. The answer was that the Ministry of Tran is receiving a deputation from the City Corporatio week, when the policy to be pursued will be discu We may take it that the "part of the river where a bridge is more urgently needed" is Charing Cross. certainly anomalous that there should be so gre stretch of river as that between Waterloo and minster without a bridge for vehicular traffic, while, St. Paul's Bridge scheme is proceeded with, there w four such bridges entering the City within the spac few hundred yards.

Fees Under Housing Schemes

As the question of architects' fees under ho schemes is now the subject of more or less delicate tiations between the Institute and the Ministry of H it would be a breach of etiquette to say a single wor might prejudice the issue. We therefore refrain analysing the merits of the case. It may serve a purpose, however, to remind both parties that an posed alteration in the scale adopted in the Mini Memorandum No. 31 should be referred to the ge body of members for decision. We need not ad assurance that the proposals may be so submitted i confidence that they will receive just and fair cons tion—is so far as they deserve it.

Rebuilding Louvain University.

[T is announced that Mr. Whitney Warren, one of the most prominent architects in the United States, has been selected to take charge of the rebuilding of the ancient University of Louvain, which was :stroyed by the German armies during the early days of e late war. Precisely how Mr. Warren comes to be ›pointed does not transpire; but that he will acquit him-lf with distinction in this honourable and responsible dertaking is a foregone certainty. Mr. Warren is best :own in this country by his association with Messrs. etmore, Reed, and Stem in the design of the Grand ntral Terminal, New York—a great architectural-gineering achievement, and one of the finest features in conventional scenery of New York.

It is not known whether Mr. Warren is expected to sign an entirely new building or merely to supervise a eful reconstruction of the old. Either course is cer-n to provoke criticism. On sentimental grounds many uld doubtless prefer to see the old work restored; but practical reasons a large body of opinion is bound to our the erection of an entirely new building.

The old Library, though delightful enough architec-ally, was by no means well adapted to its educational ction. Originally the old Cloth Hall of the city, it was ropriated to scholastic uses on the transfer of the iversity from Malines to Louvain in 1679. Erected he beginning of the fourteenth century, during the t period of prosperity that Louvain enjoyed as the re of the cloth-making industry, the Cloth Hall con-d originally of a single vaulted hall, with a series of -circular arches carried on round columns (see photo-h below). Only partial use had been made of it when as entirely taken over by the University authorities; , in 1680, added another storey to accommodate the ry, a grand double staircase leading up to the first . The library possessed 50,000 volumes when first lled, but at the time of its destruction by the

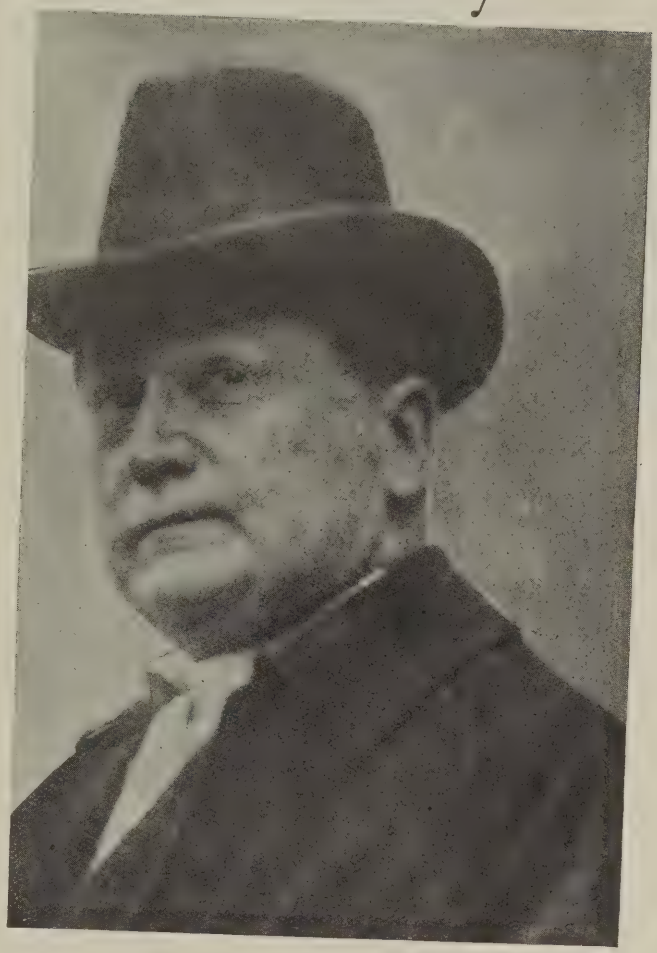


Photo: Authors' Syndicate.
MR. WHITNEY WARREN (selected to rebuild Louvain University).

LOUVAIN UNIVERSITY: THE ANCIENT CLOTH HALL AS IT WAS BEFORE THE WAR.

Germans the number of volumes is said to have exceeded 200,000. The bookcases were elaborately embellished with carving of rococo type.

The decision to rebuild the University is doubtless part of the general policy of reconstruction, and it will be interesting to see what kind of city springs up from the ashes of the old. While partaking of a certain family resemblance, every Belgian town has (or had before the war) its own peculiar characteristics. With regard to Bruges, most people are satisfied with the appellation "quaint and sleepy"; while Liége, on its broad river and with its clean streets and boulevards, had always made an entirely different appeal.

So, too, was it with Louvain—a town which, farther off the beaten track than Bruges, and consequently less known to the casual traveller, was just as sleepy, just as picturesque, and just as poor. Its first impression upon the visitor was almost invariably that of a deserted town. The pretentious railway station faced an open *place*, from which a tramway conveyed one in an absolutely direct line down a long, straight, wide street, right into the heart of the town, where all the old buildings clustered together in a crowded group. The tram deposited its passengers at the east end of the gr Church of St. Pierre, generally known as the Cathed and certainly of cathedral magnitude. This great bu ing shared the fate of many others, and now lies a h of ruins.

The Hotel de Ville, the most noteworthy building Louvain, was largely spared, though it underwent a g deal of rough treatment internally. It was in the nar street by the western side of the Hotel de Ville that great library was housed. The building was flush v the street, and designed as the Florentine palaces or nally were—to resist the attack of a street mob, being no windows, but only a strong door of late character on the ground floor.

Of the University buildings there was never m be said architecturally, for though reasonably wel portioned they were wholly lacking in the dign character that the eminence of Louvain as a seat of ing would have properly justified.

Mr. Whitney Warren will be heartily congratula English architects on his appointment, and subse developments will be watched with close and symp interest.

INTERIOR OF LOUVAIN UNIVERSITY LIBRARY AS IT WAS BEFORE THE WAR.

Architectural Causerie: About the Scillies

OF late the newspapers have been full of gossip concerning the Scilly Isles in relation to the Duchy of Cornwall. It is therefore opportune to speak of the architectural features of St. Mary's, Tresco, Sampson, and Bryher. The fortunate Isles of Scilly consist of six fair-sized islands, which, together with rocky masses, also designated islets, number a hundred and forty-five precious stones at the heel of England. Only five of the islands are inhabited, the total population scarcely exceeding the number of passengers carried on one of the Atlantic liners that give the Scillies a good offing in winter. In other words, there are two thousand souls living in these delectable parts. All these denizens are closely related; hence the recurrence of the same name time and again. How, in these circumstances, the G.P.O. contrives to "let Patience have her perfect work" puzzles conjecture.

* * *

The temperature of Scilly is equable beyond comparison—it is never too hot in summer, nor too cold in winter. Costs are infrequent. Burst pipes being unknown in Hightown, plumbers have to be called upon to make the voyage from Penzance should a new tap be required in a farm-house. In those thrice-happy isles are no motors, no advertisement hoardings, no railway stations, no wagonettes, no Pierrots, no blatant hotels, no cinemas, no mahogany bars. On the whole, the architecture is old, if simple; but of this more anon, for in my note-book I have gotten a good stock of information, which, by your leave, I will first unload.

* * *

When you are at Hughtown you are in the capital of a world in miniature—a world, moreover, surrounded by water, and bathed in sunshine. After a few days under Tregarthen's roof, you will never think of the land, for the Scilly isles are jewels belonging to the sea. For diversion you may walk a mile or two on the roads, fashioned by the old master gunner, Abraham Tovey, whose initials may be seen over the entrance to the Garrison, under the date G.R. 1742, which proves the skill of Abraham as master-mason, as well as a staunch Hanoverian. This worthy must have enjoyed his stay on the island, for he did not brook ennui with bastions to form, roads to build, and barracks to build.

* * *

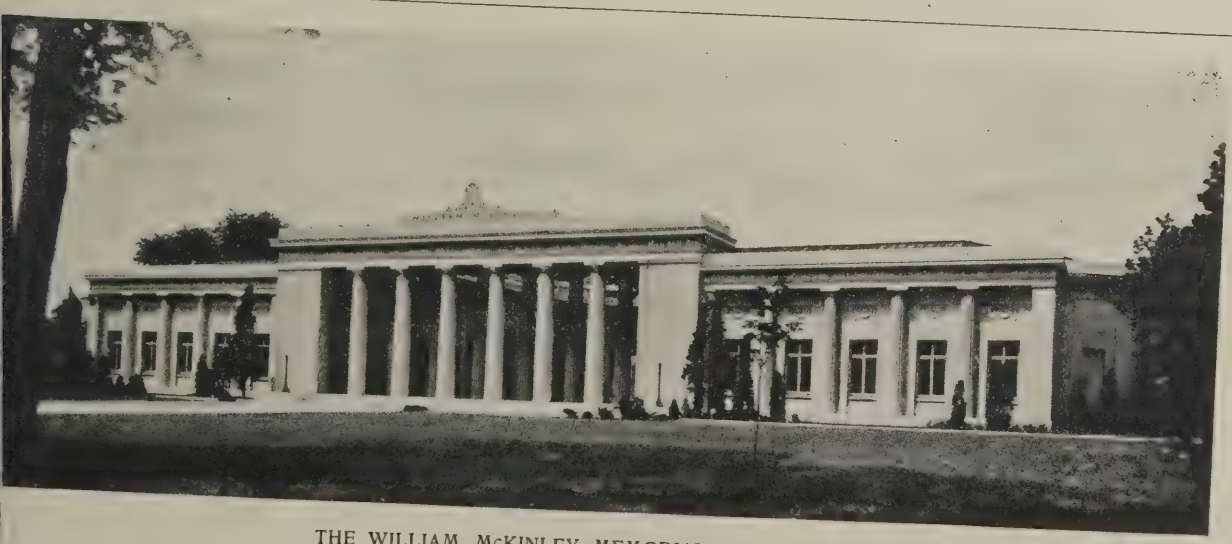
In Scilly you discuss the growing of flowers, the folly of importing bulbs from Holland, the need for development, as well as the value of tomatoes and early crops, and the probable demand for such commodities in England. No matter on what subject the conversation turns, agriculture or architecture, visitors or natives, you are bound to acknowledge the supremacy of Neptune, the capacity of the harbour, the size and speed of the packet-boat to Penzance, and thence onward to the steam navigation of every country in the world. There are none but travellers in Scilly; even the visitors who spend their holidays on St. Mary's or Tresco have the right to belong to the local Travellers' Club, which holds the settle immortalised by Besant, and is affectionately called Tregarthen's beyond the four seas. Woodley, who followed the pen of Borlase, and wrote a description of the architectural interest of the Scillies, would experience little surprise if he could return to view the scene of his studies. He might not like the design of some of the modern villas in Church Street, Hughtown, but he would find most of the houses he knew still in position, despite the winds that blow and strip the slates from the old ships' timbers that form the roofs.

* * *

At Hughtown you may see some houses covered with tiles, others roofed with small slates, and yet others thatched in a most curious way. Here I must digress a moment to write of Scillonian methods of thatching; for an irresistible opportunity to add another paragraph or so to the Causerie on thatching that appeared some few months ago is here presented. In addition, I do not intend to finish this subject in one gossip. There is something peculiarly insular in the method of thatching still followed in the Scillies. It may be observed that, owing to the prevalence of boisterous gales from the autumnal to the vernal equinox, the people who live beneath reed thatch are under the necessity of securing their roofs in the most efficient manner. The old thatched cottages of St. Mary's show large wooden pegs driven into the crevices of the masonry about fifteen inches from the top of the walls, at intervals of a foot or so. When the thatcher has finished his work with reeds from the moorlands, he binds it down with straw ropes fastened to the pegs in the wall. The ropes extend from the front to the back of the house, and are intersected by ropes of the same material running from end to end. The effect is not unpleasant, but it is doubtful whether the practice will be long continued.

AERO.

(To be continued.)



THE WILLIAM McKINLEY MEMORIAL, NILES, OHIO.

This fine architectural setting for a statue of McKinley has been designed by McKim, Mead, and White.

Saracenic Architecture in Egypt and Palestin

By MARTIN S. BRIGGS, F.R.I.B.A.

MANY of you will remember listening to a paper, read here a few years ago, by the late Mr. March-Phillipps, a very able lay-critic of architecture, with whom certain distinguished members of this Institute have had many a passage-at-arms. His delightful book of essays—"The Works of Man"—on various architectural periods, contains one chapter entitled "The Arab in Architecture." Now Mr. March-Phillipps is one of the very few writers on our art whose books do not depend chiefly on their illustrations. (Mr. Geoffrey Scott's brilliant work—"The Architecture of Humanism"—is another example, and many of Ruskin's architectural essays are readable on their literary merits alone.) But without in any way depreciating the splendid plates that form the most valuable part of modern architectural books I wish to draw your attention to the illustrations in this book, "The Works of Man." The first edition contained only a very suitable frontispiece. But in a later edition the author was persuaded or bullied by his publisher, or induced by an error of judgment on his own part, to add a score or so of pictures, and for his Arab chapter he selected three subjects illustrating the worst features of the style, especially one view of arcading in the Great Mosque of Cordova. This is one of the most extravagant examples of Moorish design extant, hardly paralleled except possibly in India, yet round this plate he weaves so hostile a criticism of Arab art that even the charm of his writing cannot force every reader to accept it without protest. A similar treatment of Baroque would give us Borromini as its chief exponent, neglecting all the dignity and grandeur it possessed in more restrained hands.

Character of the Arabs

He proceeds to analyse the character of the Arabs, as he reads it in the record of their sensational military conquests during the early centuries of their history, and finally condemns it as a combination of frantic energy and fickleness, of weakness and instability. The victories of the Saracens he regards as showy and barren of result. But, without venturing far into the region of controversial history, there is surely much that he leaves unsaid in this presentation of his case. He says nothing of the enormous driving force of Islam, the great religion that is still one of the most potent factors in the world to-day.

Finally he proceeds to interpret Arab architecture as a reflection of these characteristics in the temperament of the race—furious energy, fickleness, weakness, and instability. He begins by quoting Fergusson, to the effect that "the Arabs had no architecture, properly so-called"—surely a curious statement to advance in support of a violent attack on that very architecture. They were incapable of any creative art themselves, so they borrowed, from each country that they conquered the skill of its native craftsmen. Yet at the same time he stigmatises them as iconoclasts who destroyed every beautiful thing that they found, casting away the dignified arches and vaults of the Romans, the massive columns and lintels of the Greeks. Yet while helplessly leaning on native artists with one hand and tearing down all the glories of native art with the other, they somehow contrived (in spite of their weakness) to force upon the reluctant civilisations of the past certain novel features of design which caused these old-fashioned arches and lintels—so he tells us—"to buckle and bend in all directions like a child's toys"!

He does not tell us that the chief reason for breaking away from the traditional architecture of the Copts, the Syrians, and the Byzantines—all Christian nations—was an essentially religious one, that in the architectural forms of the mosque as well as in its arrangements it was desired to avoid any similarity to the details of a Christian Church. But just as the early Christians themselves at first avoided the pomp of the Pagan temple style, and finally swallowed it whole, so the Arabs, a race of warriors, eventually found it convenient to make use of the trained Christian craftsmen in the rich towns that they conquered. As iconoclasts they had no blacker a record than the Christians, and an impartial reading of the history of Jerusalem does not increase our admiration for the Crusaders when massacres and mosque-burnings are in question.

After a careful analysis of Mr. March-Phillipps's case against Saracenic architecture, Mr. Briggs continued: He himself demands that criticism of this difficult style should be rational and not romantic; yet surely rational criticism should be judicial and based on the average qualities of the buildings criticised, not on isolated examples carefully selected to support a theory which though not exa romantic is highly imaginative. I turn to a very brief, and as far as pos impartial, survey of the architectur the Saracens in Eygpt and Palestine, a view to attempting an unbiassed j ment of its merits and defects.

Origin of Style

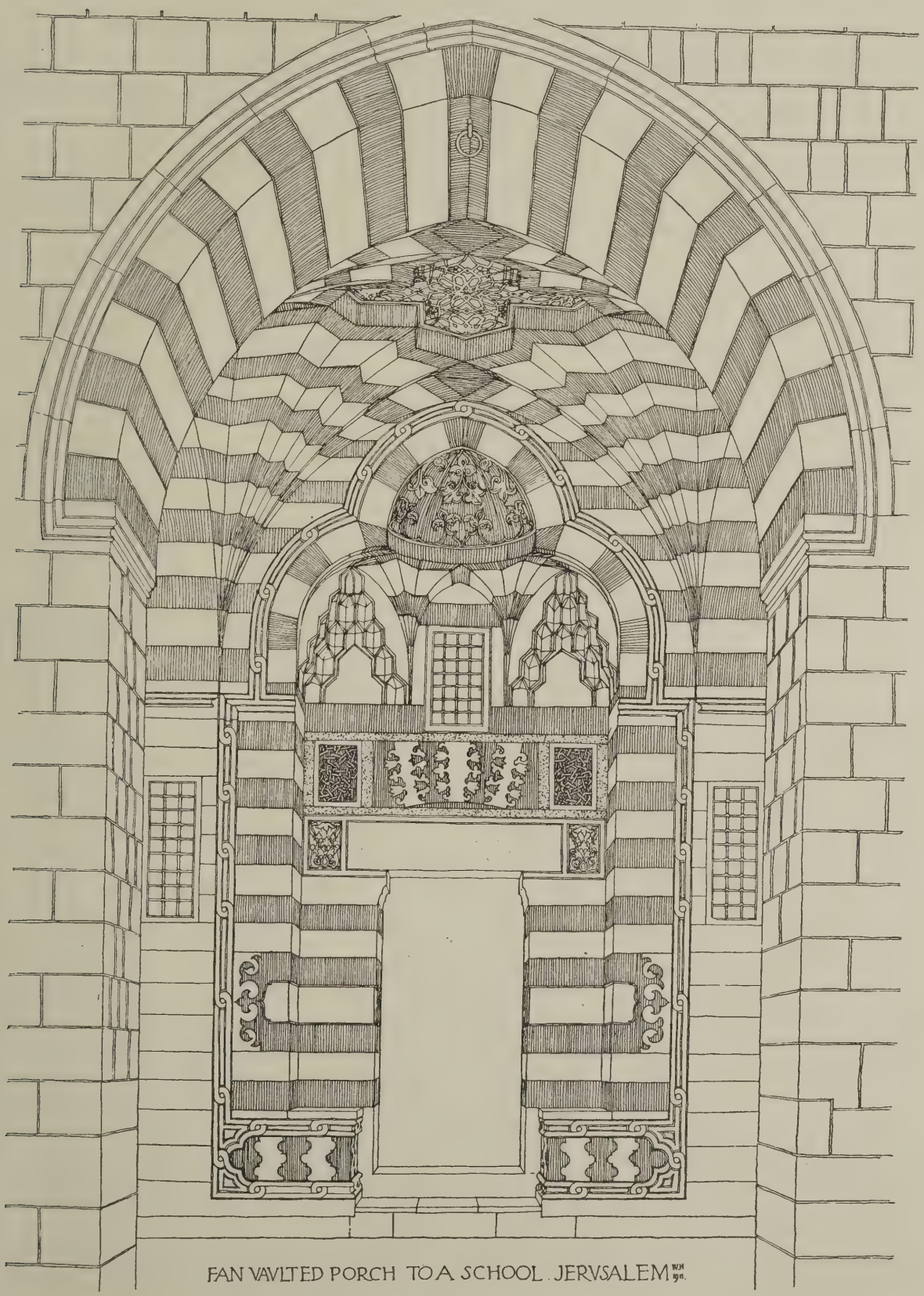
Critics have raged for many years the name and the origin of this arch tural style. There is a choice bet three terms—"Arab," "Saracenic," "Muslim" (or "Muhammadan"). first was chiefly used by the Fr writers of last century who did so r to popularise and expand the st Prisse d'Avennes, Bourgoin, Gayet, C Girault de Prangey—also by Professor Berchem and by a few Italian and En writers. It has also received o sanction in the name of the Musée A in Cairo, and in that of the Comité de servation des Monuments de l'Art Ara the office in Egypt that fulfils the function as our Ancient Monuments mission. The name implies the art was produced under Arab dominion. it has been severely criticised in ce quarters on the ground that the themselves in the early—or "whirlw —days, when they swept from the across Western Asia, Northern Africa Spain, were uncivilised barbarians, ing with them, as Rivoira says, "on scimitar and the Koran," and depe entirely on the talents of native craft in the conquered countries for their tecture.

MR. MARTIN S. BRIGGS, F.R.I.B.A.

* Extracts from a paper read before the R.I.B A. on Monday evening last.

Saracenic Vaulting. Fan-Vaulted Porch to a School in Jerusalem

From a Drawing by W. Harvey



The type of fan-vaulting shown in the above extremely clever drawing was invented during the fifteenth century. As will be observed, it bears a marked similarity to the fan-vaulting produced in England about the same period. The characteristically Saracenic feature known as the "stalactite" (tiers of projecting niches built up in a geometrical design) will also be noted.

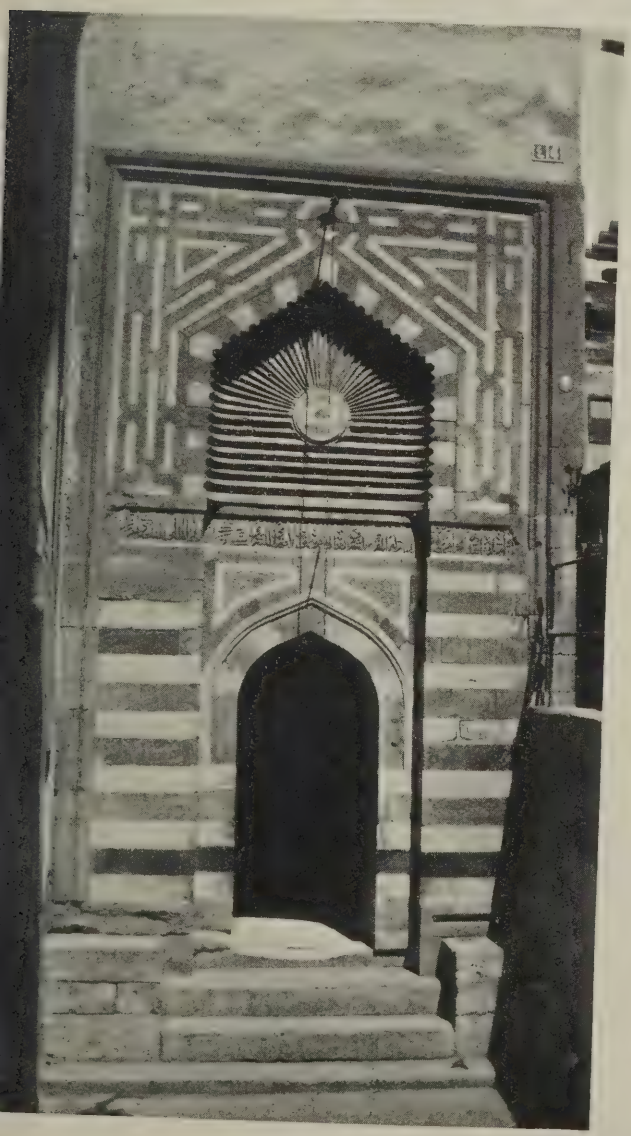
The chief supporters of the name Saracenic" are two Englishmen, of uch authority on the period that their pinion is valuable—Fergusson and Lane-oole. The latter has defended his view ery ably, pointing out that it is an ancient ame of uncertain derivation, given during e Middle Ages to the wild tribes of the astern deserts. Gayet makes fun of it s a nickname, suggesting that if this rm—signifying no more than a band of igands—is to be used as a serious title r an architectural period, we might, on e same analogy, describe French archi-cture of the age of Louis Treize as ousquetaire. But England has accepted Gothic" and "Baroque," both origin-ly nicknames, as architectural terms, d it must be remembered that a word hich at first may have been indefensible es, after the usage of centuries, pass o our vocabulary as good English.

It is for this reason that I have hesi-ed to adopt for my subject the title hich has of late found favour among the st learned authorities—"Muslim" (or Muhammadan") architecture. It has en used by M. Saladin in France, by mm. Rivoira in Italy, by Franz Pasha Germany, by Strzgowski in Vienna, by eswell in Cairo, and by many other ters. It implies that in all this archi-ture, from Turkestan and India to Spain and Morocco, there is a common religious basis. But it does not yet convey to the ordinary English reader, as does the word "Saracenic," the special meaning of the art of those countries—Syria and Egypt—where the Crusaders fought and where they familiarised this nickname, if such it be. Nor does it seem correct to speak of a "Muhammadan" dwelling-house in Cairo or a "Muhammadan" castle, any more than it would be appropriate to describe Waterloo Station in London or the Folies Bergères in Paris as "Christian" buildings.

Origin of Saracenic Art

Even more violent controversy still rages over the origin of Saracenic art between defenders of various theories, each diametrically opposed to all the others. Broadly speaking, it may be said that Gayet attributes it to Coptic Egypt, Strzgowski to Byzantium, Rivoira to Rome, Dieulafoy to Persia, and Havell to India. Seats astride the fence are occupied by Fergusson, Lane-Poole, and Saladin, and I hope that the same safe if inglorious perch will bear my slender weight in addition, but there is no time to venture on to so thorny a topic.

The first mosque was built by Muhammad at Medina in A.D. 622 and was a primitive enclosure or yard with low walls. Adjoining were bare apartments for the prophet and his wives; also a well. The roof was of palm-trunks and mud. Later a portion of the enclosure was covered with a similar roof, to form a shelter from the fierce rays of the sun, and finally this feature was extended round all four sides of the court. Then there was evolved a *kibla* or point in the wall towards which worshippers had to face when they prayed. This came to indicate the direction of Mecca, and the *kibla* wall was distinguished by a semi-circular niche—the *mihrab*—the origin of which is a bone of contention. It may have sprung out of anything from a Christian apse to a Buddhist image-niche, or even out of the brain of some pious Moslem craftsman. In the fullness of time Muhammad added a primitive sort of wooden pulpit, the *mimbar*, of which again the origin is uncertain. But in spite of this absolute lack of anything approaching architecture, as we understand it, in this elementary structure, it already contained the essential features of the mosque plan: the square open court or *sahn* with a covered portico or *liwan* on each of the four sides, the *mihrab* or prayer-niche on the *kibla* wall, the *mimbar* or pulpit adjoining, and some provision for ceremonial ablution. But the most striking feature of the mediæval mosque—the minaret—was a later addi-



ENTRANCE TO THE BATH OF THE EMIR BESHTÂK, CAIRO.

CARVED STONE SCREENS FROM THE SANGAR-EL-GWULI MOSQUE, CAIRO.

Photos: Frederick Chatterton, F.R.I.B.A.

tion, and was instituted to allow the muezzin's call to prayers to be heard over a wide area, without recourse to the bells used by the Christians. At first it was a rough tower without any grace of form.

Within a few years, as the conquerors swept east and north, other mosques were built, notably at Mecca, at Cairo, at Kairawan, in Tunis, and at Jerusalem.

We may now turn to the famous mosque of Ibn-Tulun, in Cairo, built 876-879, for no important monument survives from the century and a half following the Great Mosque at Damascus. Cairo was now a large city, the seat of the Governor of Egypt, Ibn-Tulun, formerly a Turkish slave in the service of the Caliph of Baghdad. His mosque is perhaps the most noteworthy building in the whole history of Arab art. In plan it follows closely on the Mecca model, with a great central court, *liwans* on each side—that facing Mecca, and containing the *mimbar* and *mihrab* being the widest—and a remarkable "corkscrew" minaret. The latter is almost certainly copied from the old Malwiya mosque at Samarra, near Baghdad, erected in 846-852, and the Samarra plan also has points in common with the Cairo plan.

From the time of Ibn-Tulun there is another long hiatus in the list of noteworthy buildings surviving to us. Then under the dynasty of the Fatimids (969-1171) certain developments took place in mosque building. The mosque of Al-Azhar (970) in Cairo is familiar to most tourists as the seat of the picturesque Egyptian "University" (so-called), but of the original building little more than part of the arcades remains, with Persian or "keel" arches, a form used more freely in Persia and Mesopotamia than in Egypt or Syria. Both this mosque and that of Al-Hakim (990) not far away were great "congregational" mosques, like that of Ibn-Tulun, planned to accommodate the whole population of Cairo for the Friday prayers.

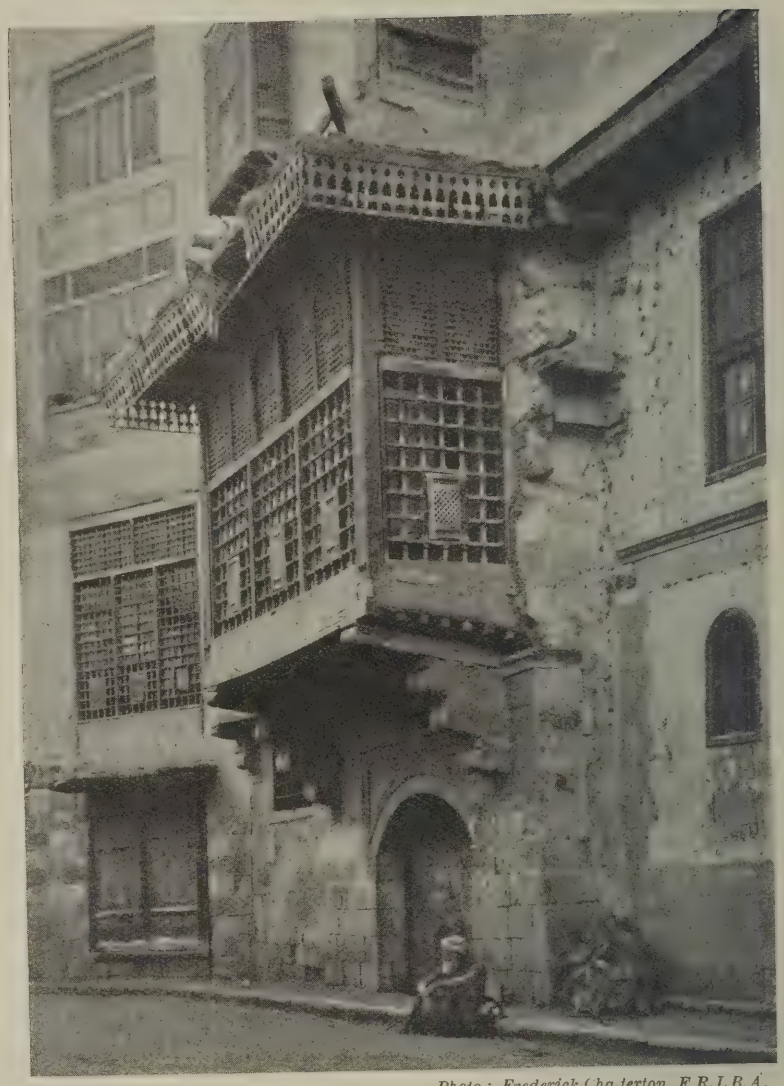


Photo: Frederick Chamberton, F.R.I.B.A.

MUSHARABIYA WINDOW, CAIRO.

The Mameluke Period

But the golden age of Saracenic architecture in Egypt and Palestine was the period of the Mameluke Sultans from 1250 to 1517. The word *mamluk* in Arabic signifies a slave. It had been employed centuries earlier at Baghdad, where the Caliph had formed a bodyguard of slave-soldiers drawn from the Turcoman tribes of Central Asia. One of these mamelukes was Ibn-Tulun, another was Saladin, and it is a curious thing that almost all the best architecture of the Saracens was produced under the direct inspiration of these foreign soldiers, for from their ranks came to be chosen the Sultan of Egypt, who was, almost without interruption during the Middle Ages, the ruler of Palestine also. Cairo now became by far the most important city of these rulers, and at the same time the most luxurious and beautiful capital in the Near East. Professor Lane-Poole has shown that Cairo, not Baghdad, was the real scene of the "Arabian Nights." But out of hundreds of buildings still remaining from the Mameluke period I have only time to mention a few typical mosques.

One of the first Mameluke Sultans was Bibars (1260-1277), who built a large congregational mosque on the Abbassia road outside Cairo. With its long bare stone walls, battlements, and massive porches, it looks more like a fortress than a mosque. To architects it is important for the ornament of these porches, showing Crusader influence, and for the geometrical plate-tracery of its windows or *kamariyas*. In its plan it follows the traditional type, but the great façade is treated as a definite design, not merely as an enclosing wall.

Perhaps the most beautiful building in all Cairo is the tomb-mosque (1284-1285) of Sultan Qalaun. This is an entirely new type, and the chief feature in all tomb-mosques is the dome over the tomb itself. Hereafter the dome came to be the principal factor in Cairo architecture, and was often skilfully used in contrast with the slender form of the minaret. The interior of this building is decorated with rich ornament in marble and other precious materials, and the striped façade—probably the prototype of striped façades in Pisa and Genoa, whither sailors brought back ideas from Egypt—is a beautiful composition again showing Crusader influence. The windows here are specially noteworthy.

In the latter half of the Mameluke period was built the wonderful series of tombs in the desert east of the city, wrongly known as the "Tombs of the Caliphs."

Of these the earliest, largest, and most remarkable, is the great convent and tomb-mosque of Barquq, erected by Sultan Farag in 1400-1410. This preserves in its main outlines the form of the congregational mosque, with the addition of a domed tomb-chamber at either end of the Mecca *liwan*.

In the succeeding century, particul under the Sultans Qayt-Bay and Ghury, Saracenic art reached its culm tion, and a number of splendid build were erected, chiefly in Cairo. They notable for: (i) the profuseness and cacy of their ornament; (ii) the sle beauty of their minarets; (iii.) the stu grouping of minarets and domes; (iv.) harmonious relation of all details of interior and exterior. The *madrassa* came to be the most popular, but central court was roofed with a lanter dome. The tomb-mosque of Qayt (1472-1474) is the most ambitious of long list, and may be taken as typic the others.

The façades of the mosques, and walls of their inner courts were cro with indented or foliated battlem Before the Mameluke period these had sisted of geometrical pierced parapets next stage was a curious saw-tooth that seems to have had its origin in M potamia, and later appeared in Ce and Northern Italy; and Mameluke b ings of the last phase have more or elaborate foliated parapets, not u Gothic cresting.

One hardly ever finds a Saracen b ing crowned by a cornice. Similarly Arabs never utilised mouldings with effect, but there is a charming ty strapwork or interlacing ornament th frequently used round arches where G masons would use a dripstone.

Modern French Architecture. 6.—Commercial Building, 13, Rue d'Uzes, Paris

Roulin, Architect

If the London Building Act could be revised, scope would be offered for English architects to produce metal fronts in certain quarters of the City. French architects have every freedom in this regard. Of abstract designs suitable for transposition the Pompeian style offers many examples.

The Arabs seem to have aimed at breaking up all flat surfaces which would otherwise have been glaring, and decorating them in very low relief. There is one very beautiful stucco frieze in the Mosque of Sultan Hasan that serves to illustrate three of the leading characteristics of Saracenic ornament: (i.) the decorative use of Kufic lettering; (ii.) the conventional type assumed by floral forms, the use of living animal and vegetable forms in decoration being forbidden by Muslim tradition; and (iii.) the lowness of the relief and the delicacy of its execution.

The chief feature that is peculiar to the Saracenic style is the curious geometrical form known as the "stalactite." Its origin is still quite uncertain, and it does not seem to have existed prior to the Mosque of Al-Aqmar at Cairo. It consists of tiers of projecting niches, angular or curved or plain. It is used in the pendentives of domes, in the vaulted heads of porches, in capitals, brackets, and cornices, and in most cases involves very great skill in craftsmanship. Joggled voussoirs afford another outlet for the skill of the mason and the marble worker.

Saracenic woodwork is renowned for its elaboration, though this elaboration was usually dictated by practical reasons. For instance, the beautiful turned lattice work known as *musharabiya* was designed to permit the inner rooms of a house to be simultaneously shaded and aired, while preventing the inquisitive male from seeing the women within, though they could watch the happenings out-of-doors without being seen themselves. And the delicacy of panelled woodwork was conditioned by the shrinkage of timber under the blazing Egyptian sun, so that small panels were essential. If there are any architects who are unfamiliar with the minor arts of Arab craftsmanship, the inlay in ebony and ivory, the dainty *kamariyas* or traceried windows filled with coloured glass, the marble dados in quiet tones of grey and blue and white, the wonderful lamps that hung in the mosques, they will find them all illustrated in the works of Prisse d'Avennes and of Bourgoin in our Institute Library; and there is a fair collection of examples in the South Kensington Museum.

The Turkish conquest of Egypt and Palestine in 1517 put an end to the Mameluke Sultans and caused an immediate change in architectural forms. Though the Saracen tradition in building has never really died, the Turkish conquest brought about a cessation of mosque building and a deterioration in design. The mosques of Constantinople made their influence felt in Cairo, but the Tekkiyet at Damascus is the best example of this new school.

Progress of Private Building

Certificates issued to private builders under the terms of the Government grant now number 25,978, of which 434 were issued by the Ministry of Health during the week ending November 26, 1920. The total amount certified as payable thereon £6,286,774. The actual number of houses completed under the grant in respect of which the giant has been paid, now is 4,177, and the amount paid is now £941,475. The greatest number of certificates issued is in the London region, where sanction to proceed with 5,580 houses has been granted. In Lancashire and Cheshire 3,521 certificates have been issued.

Mr. W. E. Riley on London City Churches

After a visit to forty-nine City churches, Mr. W. E. Riley, F.R.I.B.A., comes to the conclusion that St. Bartholomew's the Great holds the supreme position in architectural interest. Mr. Riley, who is the late superintending architect for metropolitan buildings and late architect to the London County Council, is one of the architect advisers to the Bishop of London's Commission. In the course of an intensely interesting report on the churches—which is accompanied by a list in which they are classified according to architectural value—Mr. Riley states: First, taking the churches of the mediæval period, so few of them remain that they call for the most careful scrutiny as to classification in a city which has been singularly deprived of many examples of Gothic architecture. The churches built by Wren presented fewer difficulties where they had not been altered or seriously damaged by injudicious restoration. Most of them are masterpieces of originality and great architectural conception, illustrating a distinctly British sentiment of the highest order, and showing our national interpretation of the classical revival in Europe.

It is to be regretted that the imprudent alteration in some of these churches has seriously damaged their architectural value and its example to posterity. As illustrations of the deplorable effect of this method of dealing with monumental buildings of a past age, I invite attention to St. Michael, Cornhill, and St. Dunstan-in-the-East, and the serious alteration of the interior of most of these churches by the removal of the original pews and the substitution of incongruous and inharmonious woodwork. Similar conclusions arise in considering many of the post-Wren churches. Ill-judged alterations have been made which appear to be devoid of appreciative sympathy with the aim of the original architecture, and have resulted in irreparable change which is seriously damaging to the buildings. They all present some characteristics which—if they had not been tampered with—would make their retention imperative.

Relative Classification

In nearly all the churches there are portions of the architecture which are of extreme interest even in those rare cases where the main structure is not distinguished. This has created considerable difficulty in selecting the buildings to put into the three classes. The question is a relative one, and placing a building of historical interest in Class 3 must not be taken as a condemnation of the building or subscribing to the necessity of moving it. There are always features, fittings, and portions of these buildings which tend to strengthen one's reluctance to condemn buildings to destruction, e.g., the fine tower at the west end of St. Botolph's, Aldgate. Similar features in the churches of St. Alphege, London Wall, St. Sepulchre, Holborn, and in nearly every building which is not in Class 1. In this connection I ask your Commission to consider the following suggestions:

(1) That before condemning any City church to destruction, the practicability and desirability of removing it and re-erecting it should be considered. Most of these buildings could be so dealt with, and I have already advised on this question in regard to Flitcroft's Church St. Olave in Tooley Street, in the Bishopric of Southwark; in that case it seems to me eminently practicable, and if such a removal were properly recorded by a tablet I suggest that it would have the effect of preserving the architecture and answer any charge of want of consideration which might thereafter arise.

(2) That should a church be condemned to destruction, an advisory committee of architects should be assembled to recommend that objects of archæological and architectural interest should be conserved, and that proper steps should be taken to ensure their preservation in the best way for the interest and edification of future generations—the manner in which portions of certain of the monumental buildings of France have been dealt with at the Ecole des Beaux-Arts illustrates the principle. There is a strong reason apparent that for the lack of control of this character, portions of buildings, and even complete buildings, of considerable artistic merit have been carelessly disposed of or seriously damaged or lost. Such a disaster, I feel sure, the Commission will be desirous to avert and would no doubt take measures at the proper time to prevent.

Architects and archæologists are constantly hoping and asking to bring about an understanding of the monumental buildings of this country, which illustrate the progress of artistic effort and the history of its famous men and people. It therefore becomes necessary at such a time that measures should be taken to prevent these irreparable losses.

In conclusion, Mr. Riley makes the following classification, the buildings being placed in the order of their architectural value:

Class I.—Churches which on architectural grounds must be retained: St. Bartholomew the Great, All Hallows Barking; St. Olave, Hart Street; St. Helen's, Bishopsgate; St. Giles, Cripplegate; St. Stephen, Walbrook; Christ Church, Newgate Street; St. Bride, Fleet Street; St. Martin, Ludgate; St. Mary-le-Bow, St. Mildred, St. James, Garlickhithe; St. Mary Abchurch; St. Margaret, Lothbury; St. Benet, Paul's Wharf; St. Anne and St. Agnes, St. Mary-at-Hill, St. Michael Paternoster, St. Vedast, St. Magnus, St. Augustine, St. Peter Cornhill; St. Swithin, London Stone; St. Mary Woolnoth, St. Laurence Jewry, St. Mary Aldermanbury; All Hallows, Lombard Street; St. Margaret Pattens, St. Alban, Wood Street; St. Clement, Eastcheap; St. Edmund King and Martyr, St. Nicholas Cole Abbey, St. Andrew-by-the-Wardrobe.

Class II.—Churches which (though not equal to Class I.) are such that removal could not be justified: St. Katherine Cree, St. Andrew Undershaft, St. Ethelburga, St. Mary Aldermary, St. Sepulchre, Holborn; St. Michael, Cornhill; St. Botolph, Bishopsgate; St. Dunstan-in-the-West, St. Stephen, Coleman Street.

Class III.—Churches which on architectural grounds might be removed: St. Botolph, Aldersgate Street; St. Botolph, Aldgate (church and not the tower and steeple), All Hallows, London Wall (church) St. Dunstan-in-the-East (church), St. Bartholomew-the-Less, St. Katherine Coleman, St. Alphege, London Wall (church).

Correspondence

Architecture in the New World

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—To my regret I am banned from the meeting of the Professional Institutes and Associations owing to the fact that, with one exception, they are always held on a Monday. I have, however, read with great interest your account and criticism of Major Barnes's paper read to the Architectural Association on November 22.

First of all I should like to congratulate Major Barnes on his courage in so boldly putting forth a case that must of necessity be distasteful to the private practitioner. I am sorry for the latter because private practice is my ideal of professional architecture, but I am sadly afraid Major Barnes is right. The whole tendency of the world to-day is centralisation. We hear much about the right of self-determination for small nations, of devolution for Great Britain, the rights of the individual, and so on, but the facts are a League of Nations, international labour meetings, international science and art movements, banking and commercial combinations and trusts, and also immense trade union combines. These combinations are one and all for greater security or self-defence, even though should they engage in battle the disaster will be the more terrible. However, peace or war amongst these tremendous powers means the extinction of the ordinary small private professional practitioner. He will not, architect or otherwise, be able to stand up against them any more than the small private tradesman.

Every trust is a combination of so many firms and consequently so many clients; every client formerly consulted its own architect, now the trust consults only one architectural firm, or has its own architectural staff under a salaried architect. In other words, commercial architecture is becoming very much like official architecture, and the private firms that are left do tend and must tend to become more akin to the multiple shop firm, employing so-called "assistants," those who in the old days would have had their own practices.

Major Barnes is not altogether original, though I would not in any way accuse him of plagiarism. He has put the thoughts of many professionals into words that will eat home and cause thinking, and for this he has done a great service. Among architects, also, he is in a position to obtain a wider perspective than most of us, and has seen clearly where we have speculated. The Architects' and Surveyors' Assistants' Professional Union has, however, always faced the fact that more and more architects will never establish their own practices. At our joint meeting with the Society of Architects at Olympia during the spring Building Trades Exhibition, I made exactly these points (these observations were not reported at any length), though the spirit of the meeting was to pour cold water on them. In July Mr. Penty, our president, at Caxton Hall traced the decline of the small practitioner and the increase in numbers of the assistant to the growth of the limited liability company, so that Major Barnes is only speaking in terms of prophecy where Mr. Penty spoke in those of history.

The lesson, however, is obvious. Individualism means starvation. Combination is essential and will become more and more essential, not only for practising architects, but also for assistants, and, after that, combination of these two with all allied professions. We may not like it, but we shall have to have it.

CHAS. MCLACHLAN,
Hon. General Secretary.

Architects' and Surveyors' Assistants' Professional Union, 33, Tothill Street, S.W.1.

Architecture in Liverpool

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—I do not think that the residents of this great city fully realise that St. George's Hall, which stands in all its majestic grandeur in Lime Street, is one of the finest examples in Europe of the successful blending together of the Grecian and Roman orders, producing the Græco-Roman style. The élite of the profession, after making a pilgrimage to the site, pronounce it to be so. Madame de Stael truly says that "Architecture is like frozen Music." Architecture like this has an exhilarating effect on the mind. A student looking at the south-east angle would be enraptured with its artistic details, and possibly be induced to emulate this glorious design, the product of the genius of its youthful architect, Harvey Lonsdale Elmes. Youths should be encouraged to do so.

"The applause, the favour of our fellow men,
Fans even a spark of genius to a flame." —*Ovid.*

The exquisitely proportioned heights of the columns of the colonnade to their diameters on the eastern façade, and the like in the south portico, the crowning pediment, and its richly-carved tympanum proclaim his observance of the canons and scale of heights laid down herein. How proud our citizens should feel to possess such an art treasure; and a duty devolves on them to show their gratitude to his memory by erecting a monument (or tablet) recording his great achievement. Poor Elmes was only twenty-four years of age when he successfully won the competition, consisting of many architects' designs, and was retained to carry out the work. It would be an opportune time to do this during the Lord Mayor's (Alderman Russell Taylor) mayoralty, as he is also an architect. The group of adjacent classic buildings comprising the Art Gallery, designed by H. H. Vale, F.R.I.B.A., and Mr. C. Sherlock in 1874; the Picton Reading Room and Rotunda, by Mr. T. Allom in 1864; the Brown Library and Museum; and lastly the imposing palatial extension of the latter by R. Bloomfield, F.R.I.B.A., are worthy of praise, and meet the requirements of the art and literary devotees of the city in a highly satisfactory way.

The three big buildings fronting to our noble river were dealt with recently by Professor C. H. Reilly, who said, *inter alia*, in a paper read before the Liverpool Architectural Society, that they were not harmonious in their relation to each other. The Liver Building is of the warehouse style, and it is to be hoped that others of the class will not find favour here. The Cunard building is a dignified structure in the Franco-Italian style, and doubtless meets the requirements of the company in every way, and reflects credit on its architects, Messrs. Willink and Thicknesse. The adjoining Dock Board offices represent the immense business connected with the seven-miles length of docks in a highly creditable way. It was fitting that the second city of the Empire and the gateway of the world should have a noble building to impress travellers with its importance, and I think that Messrs. Briggs and Thornley, its architects, have achieved their task in the erection of this English Renaissance edifice which will be a notable landmark to those visiting our port on board the Atlantic liners.

The city can boast of many picturesquely grouped churches with graceful towers and spires in the decorated period of Gothic, such as the Toxteth Congregational Church, Aigburth Road, by Mr. H. H. Vale, F.R.I.B.A. The Emanuel Church, West Derby Road, and St. Francis Xaviers Church, Salisbury Street. The Anglican Cathedral in course of construction (the design of another young architect), whilst possessing an imposing appearance, has many delightful details which give relief to its massive character.

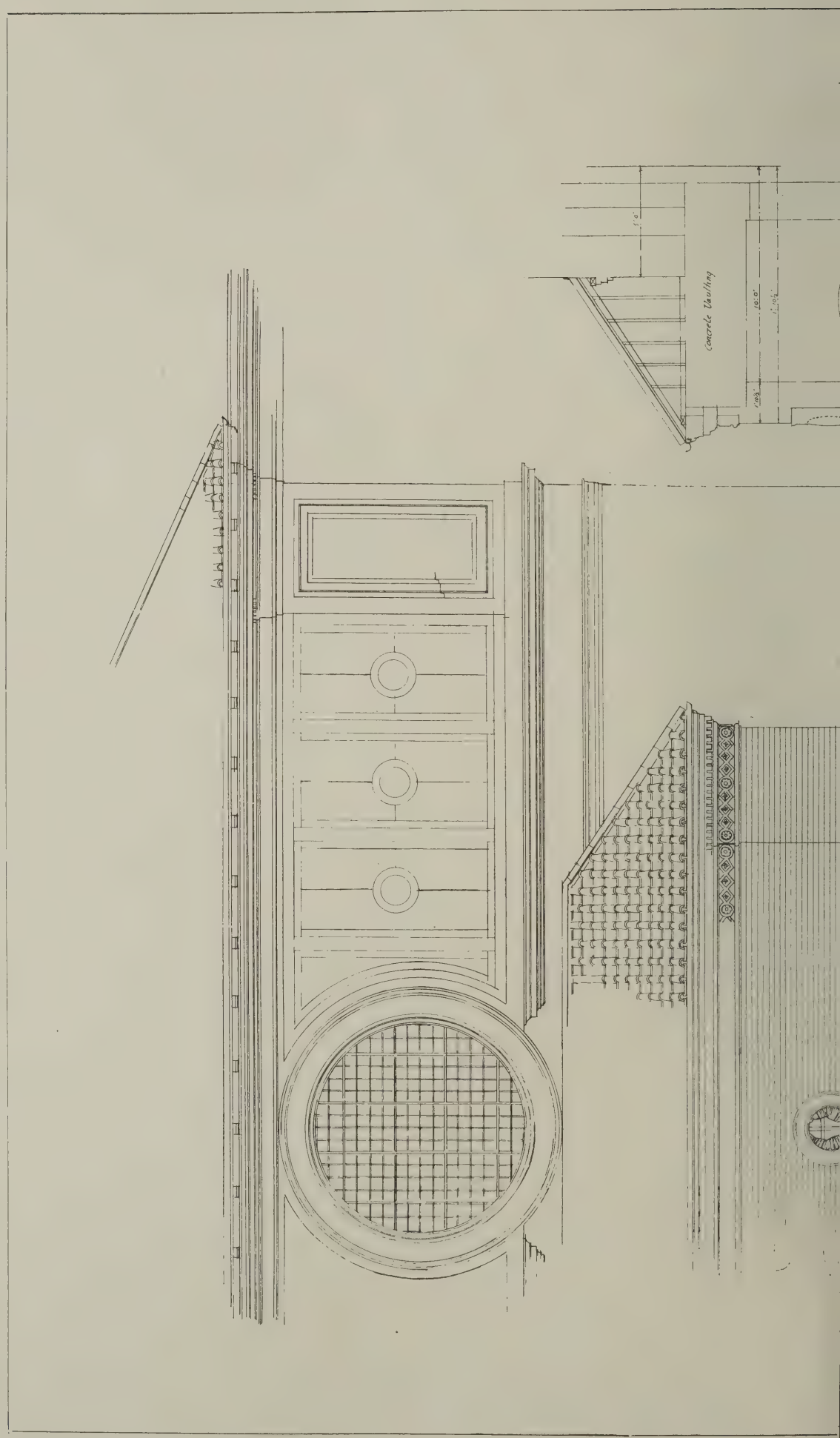
Our worthy president (Mr. Rees) expressed a wish that the society would come more in touch with the school of architecture at the university, and this I would be glad to see effected. Architects in the provinces are under a great disadvantage compared with those in London. A tribunal of appeal constituted under the London Building Act, 1894, section 175, is composed as follows: "One member shall be appointed by the Secretary of State, one member shall be appointed by the Council of the Royal Institute of British Architects, and one member by the Council of the Surveyors' Institution, and no member or officer of the Council shall be a member of the tribunal of appeal." Architects can appeal against the decision of the Surveyor of the London County Council, and in 65 per cent of cases they are successful, showing clearly its absolute necessity. I would suggest that a clause be inserted in the revised building by-laws (which are urgently required) to the effect that a local tribunal be created composed of the local Professor of Architecture, the diocesan surveyor, and a county-court judge. The Society had occasion some few years ago to ask the opinion of its members as to the occasions when they felt that they were hardly dealt with. This would be another professional point to adjust if the Lord Mayor would take the matter up; being an architect he will know of its importance.

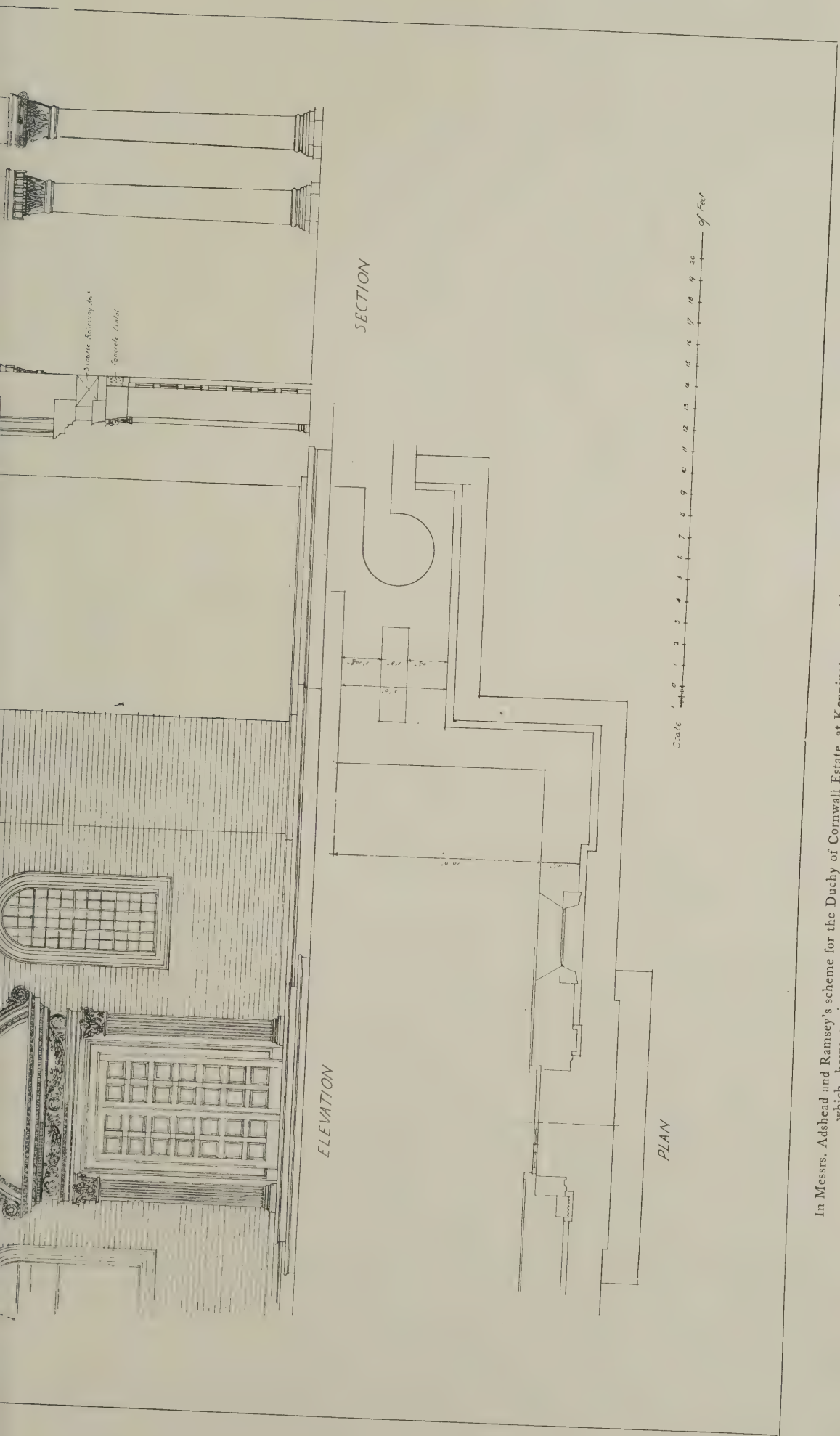
J. H. MCGOVERN,
Licentiate R.I.B.A.

[From the above letter we may judge that Liverpudlians are largely insensible of their city's architectural attractions which, however, are clearly appreciated by our correspondent, whose incidental suggestions for the improvement of professional status will no doubt receive serious consideration.—EDS. A.J.]

Architects' Working Drawings. 22.—Detail of St. Anselm's Church, Kennington, London

Adshead and Ramsey, F. and A.R.I.B.A., Architects





In Messrs. Adshead and Ramsey's scheme for the Duchy of Cornwall Estate, at Kennington, provision is made for a church—dedicated to St. Anselm—which, however, is not yet completed. The dignity and restraint of the design are manifest in the above drawing.

UNIVERSITY OF ILLINOIS LIBRARY

Library Architecture*

y Prof A. E. Richardson, F.R.I.B.A.

The designing of libraries, without ception, falls within the province of neral practice. There are so-called ecialists for this type of building, it it should be understood that designers e merely interpreters of a grim set of nditions, which can be termed the proamme, and that the success of a library an entity depends largely upon close llaboration between librarian and archict.

Historical Libraries

We have first to turn to the earliest colction of written works, apart from books, ch as the records or archives preserved icially in Egypt, Crete, and Babylonia, ich have proved of so much value to the chæologist and the architect. The Egypns decorated the façades of their buildgs with pictorial records, in addition to small libraries attached to the temples, ich dealt with religious and scientific ojects. In Mesopotamia the Chaldeans olved the forming of libraries, later folved in the seventh century B.C. by the lding of the famous library for Assuri-pal, one of the largest erected in pressical times.

Closely following this epoch of burnt y came the founding of the great library Alexandria, which consisted of two nches, one of which, the Brucheion, ginally the largest, was destroyed by fire identally when Julius Cæsar burnt the t. The other is the Serapeum, which sequently became the chief library. is was said to have held the collection royed by the Saracens in A.D. 640, but doubtful whether any of the treasures survived the pillaging of the Serapeum he Christians in A.D. 190.)

'e draw comfort and content from a ey of these early libraries, we read of famous private collection of books ned by Aristotle, which found its way ome in the time of Sulla, and we know wealthy Romans made book-collecting ionable. We note the library in y's Villa and speculate on the collecin the Palace of the Cæsars.

ublic Libraries in Rome

nder Augustus, "who found Rome all and left it all marble," two public ries were established, the "Octavian" the "Palatine." And, latterly, the us Imperial Library, the Ulpian, h was founded by Trajan and formed of the attractions of the baths of letian.

re we leave old Rome to give our atn to Constantinople in order to think collection of books and manuscripts at the instigation of Constantine, robably added to by Julian and Theos. It was from this collection that the al of learning came to the West after apture of the city by the Turks.

en William of Wykeham planned College at Oxford this priest and ect made provision for a library 70 ft. which, although altered, still forms f the upper floor of the east side of uadrangle.

Merton College, Oxford, can still be he arrangement of bookcases pro at right angles from the side walls, em retained in the late seventeenth y by Sir Christopher Wren for the library at Trinity College, Cambridge. It is possible, however, that Sir Christopher may have obtained knowledge from his friend John Evelyn of the scale and the disposition of the interior of the Laurentian library at Florence designed by Michael Angelo. Sir Christopher Wren finished the new library which forms the western side of Neville's Court at Trinity College, Cambridge, in 1695. This building stands among the finest examples of Wren's work, for the architect supervised the smallest details and designed the fittings himself. Wren sent the College a sketch plan showing the proposed arrangement, together with an explanatory letter saying that the plan "shows half the ground plot of the upper floor, the entrances from the staircases and the disposition of the shelves, both along the walls and breaking out from the walls, which must prove very convenient and gracefull, and the best way for the students will be to have a little square table in each celle with 2 chaires."

*acts from a lecture delivered at University

Public and Private Libraries

At the close of the seventeenth century a standardised type of collegiate library had been evolved by Sir Christopher Wren. We encounter this type in the remodelled library of Trinity College, Dublin, built in the first half of the eighteenth century. I refer to this as the rectangular form of plan combining stack room and reading-room, *the nucleus of modern design*, but the titles of the books are in shadow. At Trinity College, Dublin, there are galleries over the book stacks approached by staircases at either side. Originally the roof was flat, but this has since been altered.

From Dublin we pass to a library that breaks away from all the previous (or quasi mediæval) traditions, namely, the Radclyffe Library at Oxford. This unique building was provided by the brusque Dr. Radclyffe, physician to William III. and Queen Anne, both of whom the good doctor offended. The good doctor left £40,000 for building a library, and it fell to the lot of James Gibbs, the architect of the church of St. Martin's-in-the-Fields and St. Mary-le-Strand, to design the magnificent rotunda at Oxford, which admitted of a circular plan with continuous gallery, involving an arrangement of bookcases placed partly on radiating lines, and partly against the walls. This building, although novel in conception and partly determined by the revived interest of the day in Roman architecture, cannot be said to be wholly successful, as considerable space for storage and study was lost. It stands, however, not the least among the monuments of Oxford.

Throughout the eighteenth century the design of libraries received attention from architects, college authorities, and private collectors. The long gallery of Elizabeth's day in time gave place to the panelled library in the country mansion, and we have before us a choice of examples ranging from the works of Sir Christopher Wren to the ornate rooms designed by the brothers Adam for the use of their fastidious clients, many of whom collected books merely for the bindings and the titles.

As a general principle, a private working library should consist of two parts, a store-room and a study lined with cases. In fact, this is the principle of all private libraries, but a catalogue and scientific arrangement is essential.

Continuing the survey of English library architecture, as developed during the past quarter of a century, we are confronted with the rise of a vast number of small public libraries, not only in London, but in almost every provincial city and town. The programme in the majority of such examples reads as follows:

(1) Lending Library, Borrowers' Hall; (2) Reference Room and Magazines; (3) Newspaper Room; (4) Juvenile Room; (5) Store; (6) Librarian's Room; (7) Staff Room; (8) Staff Lavatories.

Enquiries Answered

Salaries of Architects' Assistants.

"Junior" writes: What is the average salary of a qualified architect's assistant employed in the provinces (1) as an A.R.I.B.A. and (2) without having passed the R.I.B.A. examination for associate?

—The salary of an architect's assistant varies according to the district, but a rough average would be £6 6s. for a chief assistant and £3 3s. for a junior. Although many chief assistants are not members of the R.I.B.A. our querist would do well to qualify as an Associate.

A Draught-preventing Door.

K. writes:—"I shall be glad if you will tell me of any device in the designing of a door which will effectually keep out draughts."

—A rebate cut round the edges of the door, and made to fit into a corresponding rebate on the jamb, would probably serve. We remember noting something similar in the construction of the doors in the late Sir Alma-Tadema's house. Here a broad flange was fixed round the inner side of the door so as to project well over the jamb. Special hinges were, however, required, so as to allow for "clearance" when open-

H. J.

Formula for Reinforced Concrete Lintels.

C. F. M. writes: "Please give me a rule-of-thumb formula for calculating reinforced concrete lintels and beams by which I can readily reckon the height and depth of concrete and area of steel required. The formula is only intended for use in economically designing window and door openings and the like."

—Let L = clear span in feet, b = breadth of lintel same as thickness of wall in inches, d = net depth of lintel in inches above the centre of reinforcement. Steel reinforcement 1 per cent. of area of concrete above reinforcement. Then approximately $d^2 = \frac{L^3}{12}$ or $d = \sqrt{\frac{L^3}{12}}$. Example 4 ft. opening in 9 in. wall. $d = \sqrt{\frac{4^3}{12}}$ $= \sqrt{5{\cdot}33} = 2{\cdot}236$ say $2\frac{1}{2}$ ins., and giving $1\frac{1}{2}$ in. cover to the reinforcement it makes the total depth 4 ins. The reinforcement in this case would be $\frac{2{\cdot}5 \times 9}{100}$ $= {\cdot}225$ square ins., or say two $\frac{3}{8}$ in. rods properly turned up into a hook form at the ends. The general principles of economical design in reinforced concrete may be summed up as follows: Slabs and beams supported by columns are more economical than slabs and beams only. Keep slab thicknesses small by introducing a sufficiency of beams, and thus keeping the span small. A low percentage of slab reinforcement is more economical than a high percentage, but a thin slab is more economical than a thick one. Keep beams deep and

narrow, not exceeding, however, a proportion of 3 to 1. Reinforcement of beams should be in few rods of reasonably large diameter. There is very little to choose in ultimate economy between single and double reinforcement. One per cent. reinforcement may be taken as a standard of economy in either case. Have pillars just sufficient to carry the loads. For economy in pillars the laterals should be spaced closely. The economy of different proportions in the design will depend upon the relative cost of the materials. Remember that engineering efficiency is not always architectural efficiency.

HENRY ADAMS.

R.I.B.A.

Council Meeting

The following business has been transacted at a meeting of the Council of the R.I.B.A.:

Regulations for Architectural Competitions.—At the request of the Northern Architectural Association the Council decided to withdraw the proposed amendments to the Regulations for Architectural Competitions in order to ascertain the opinions of the Councils of the allied societies.

The R.I.B.A. Examinations.—On the recommendation of the Board of Architectural Education it was decided to empower the overseas allied societies to conduct the Intermediate and Final Examinations of the Royal Institute once a year. The first of these examinations will be held at Sydney by the Institute of Architects of New South Wales.

Honorary Membership of the R.I.B.A.—Monsieur Louvet, President of the Société des Architectes Diplômés par le Gouvernement, has been nominated by the Council for election as an Honorary Corresponding Member in place of Monsieur S. L. Bernier, deceased. Mr. W. T. Plume, editor of the "Builder," has been nominated by the Council for election as an Honorary Associate.

The Ministry of Health and the Scale of Fees for Housing.—At the invitation of the Ministry of Health the Council have consented to re-open negotiations with regard to the agreed scale of fees for housing work.

The Work of the Literature Standing Committee.—The Council have approved of a proposal by the Literature Committee to prepare schemes for popular lectures, pamphlets, and other methods of interesting the general public in architecture and the allied arts.

Reinstatement.—Four ex-Associates and two ex-Licentiates have been reinstated.

The Shortage of Portland Cement.—The Council are taking steps to call the attention of the Government to the causes of the shortage of Portland cement, which is a serious obstacle to the progress of the building industry.

The Conjoint Board of Scientific Societies.—Mr. H. D. Searles-Wood has been re-appointed as the representative of the Royal Institute.

Presentation to Mr. Lewis Solomon

At a meeting of the Board of Architectural Education held under the presidency of Mr. Paul Waterhouse, chairman, at the Royal Institute of British Architects, Mr. Lewis Solomon, who for thirty-two years has been identified with the examination work of the R.I.B.A.—first as examiner and then as vice-chairman of the board—was presented by his old colleagues with a beautifully illuminated address on the occasion of his retirement from the vice-chairmanship of the board. The address was in the following terms:

The members of the Board of Architectural Education appreciate the long and loyal services rendered by Mr. Lewis Solomon, F.R.I.B.A., by unanimous vote on June 30, 1920, offered him their congratulations on the accomplishment of thirty-two years continuous connection with the examination system of the Royal Institute of British Architects, their thanks for his comradeship during long periods of happy co-operation; their recognition of much fruitful labour, unrecorded, but not unobserved, and their most cordial wishes for health and happiness to one who while fostering the teaching of the younger generations has unconsciously given to his older friends the lesson of an unselfish example. The signatories to the address are Messrs. Paul Waterhouse, Ernest Newton, and Arthur Keen, Sir Banister Fletcher, Messrs. William G. Newton, and Henry M. Fletcher, Professor C. H. Reilly, Messrs. Halsey Ricardo, W. S. Purchon, Max Clarke, Beresford Pite, Arch. C. Dickie, and Maurice E. Webb, Professor W. R. Lethaby, Mr. Alfred W. S. Cross, Professor Robert Atkinson, Messrs. Walter Cave and John W. Simpson, Professor A. E. Richardson, and Sir Aston Webb.

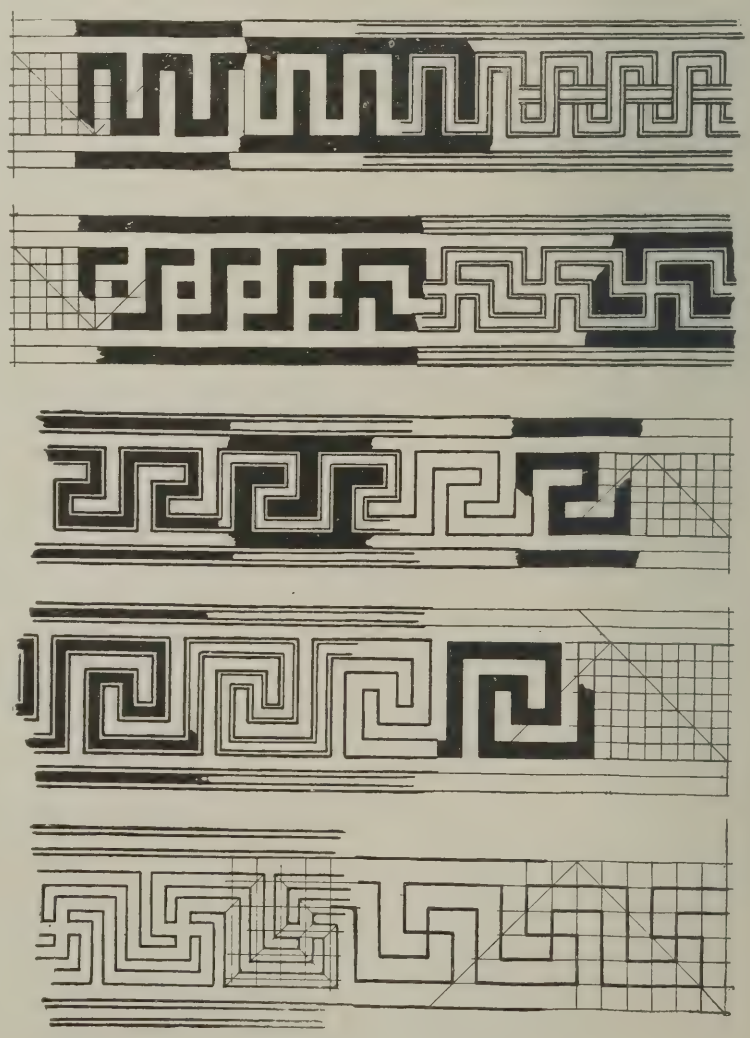
Book Notices

Design and Tradition.

No designer is worth his salt unles takes tradition for his guide. To do he must study, at least in outline, the tory of art in so far as it relates to evolution of form, and the influence of and climate, manners and customs, gion, social order, and, not least of local materials. On these subjects it is necessary to possess encyclopædic kn ledge. It is highly desirable, however obtain guidance in orienting one's amidst the vast stores of scholarship otherwise, would positively confuse study of art.

Precisely the right kind of clue to maze is supplied in the excellent b which Mr. Amor Fenn has just iss through Messrs. Chapman and Hall u the title, "Design and Tradition." as if one familiar with the intricacie the maze held out a helping hand to newcomer, leading him past the b alleys and showing him how to a snags and pitfalls and stones of stumbl "This book," the author says, "has prompted by the memory of early bewil ment and difficulties, when a guiding would have saved much valuable time prevented much misdirected energy."

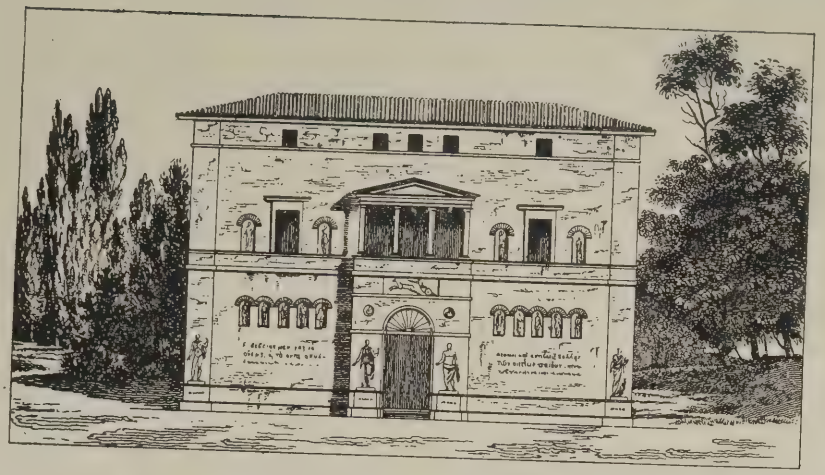
Stated briefly, the author's aim i elucidate principles from a selectio carefully chosen examples of the work has set up tradition in design. Whe

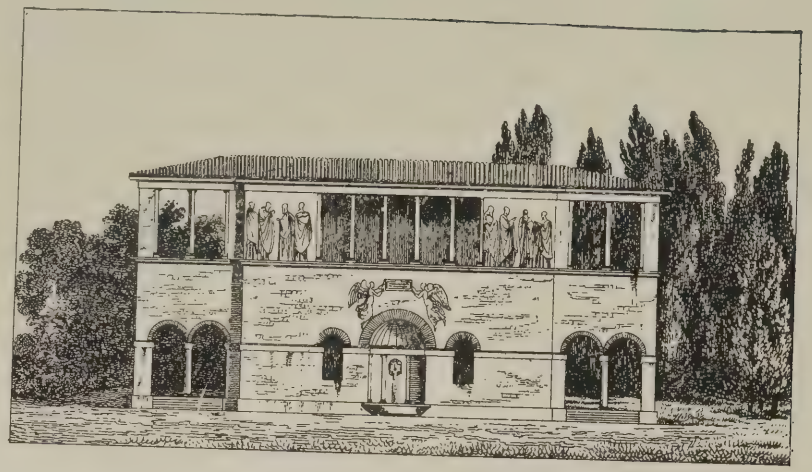


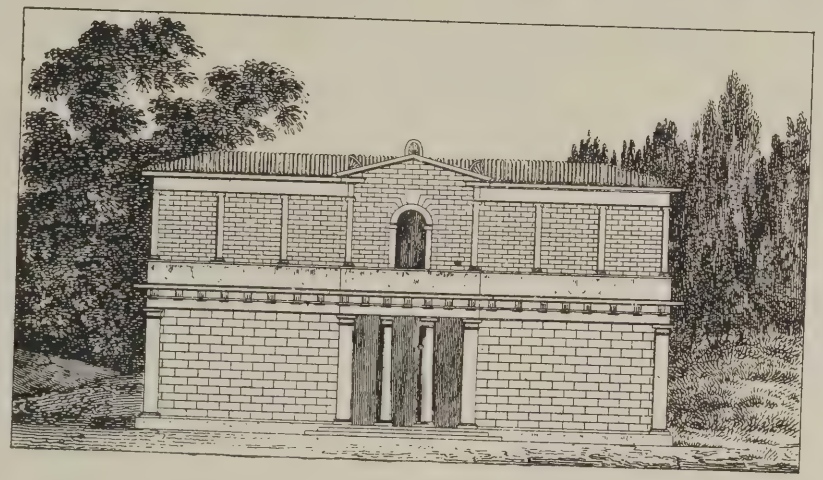
KEY-PATTERN BORDERS.

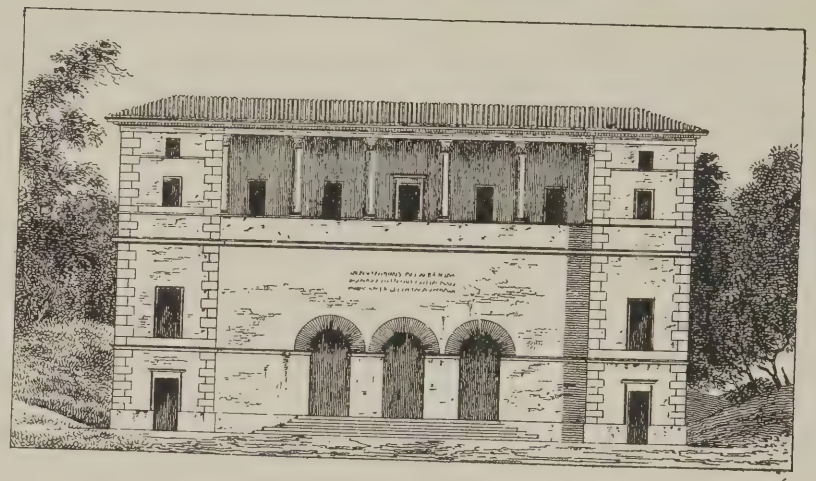
(From "Design and Tradition," by Amor Fenn.)

Italian Villas. 3.—Selected Examples from Scheult









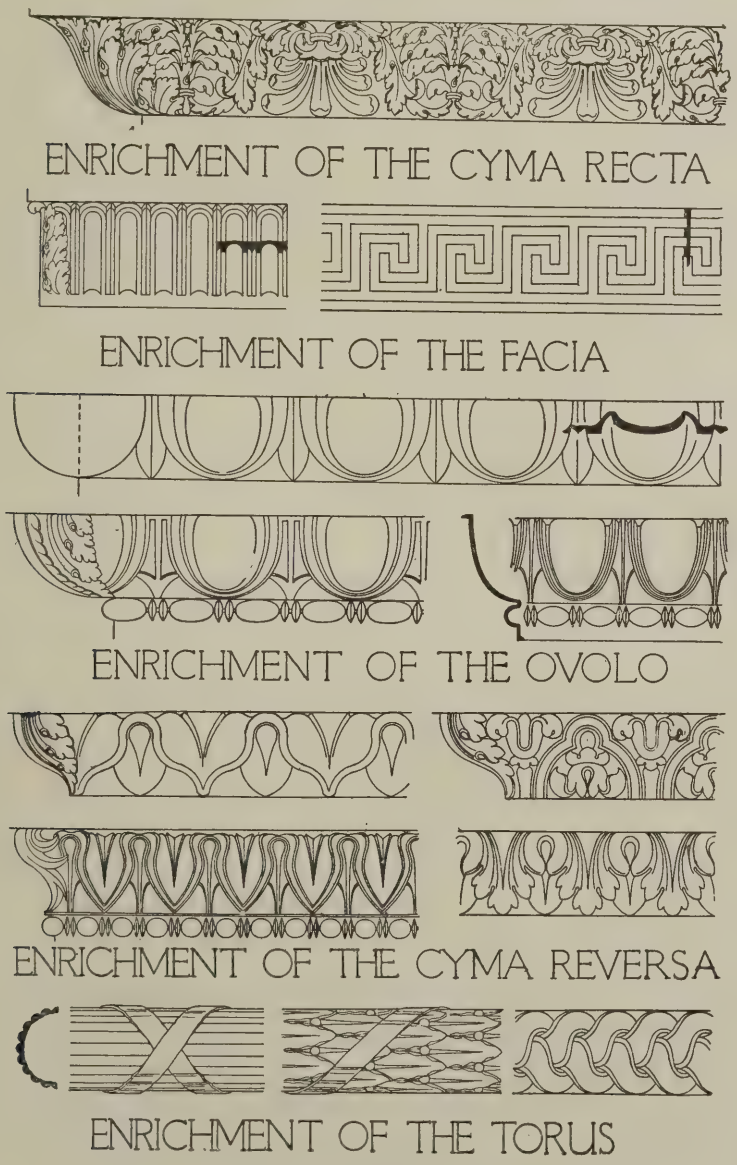
Continuing the series of drawings made by Scheult, we find that the four examples illustrated offer motifs and suggestions for modern work. It is possible to consider parts of the above designs in connection with garden pavilions, loggias, tramway shelters, and other features of modern life. Here are suitable themes for ferro-concrete.

or not such a book is helpful depends very much on the spirit in which it is done. Given a selection of the right stuff, it is hardly possible to make a dull book on design, although we certainly know one or two that come perilously near this disastrous achievement. Mr. Fenn, however, not only selects his examples with unerring taste, but discusses them in very attractive style. It is as if he had adopted the attitude of Sir Arthur Quiller-Couch, who, on beginning the duties of his professorship in literature at Cambridge, begged his students to regard him less as a formal lecturer than as an elder brother who had gone over the enchanted ground before them and was eager to share the delights of the adventure. One gathers that Mr. Fenn enjoyed writing this book, and that everybody who gets the opportunity will enjoy reading it is a very safe prediction.

Very wisely (so we are bound to believe), the author makes extensive use of architectural features: "with the conviction that a knowledge of these will be found helpful in the formation of methods, logical and constructive." It is in this respect that Mr. Fenn scores decisively over other writers on design, several of whom seem to forget that architecture is the fountain-head of all art, and is capable of illustrating all its fundamental principles. This unity of the arts is apparent all through the book, in which a luminous introductory chapter dealing with such high matters as human limitation, inspiration, the ethical side of art, and so on, clears the ground for the chapters dealing successively with art history, mouldings, architectural proportions, division of surface, development of conventional ornament, treatment in design, mythology and symbolism, ways and means. With each of these subjects Mr. Fenn deals copiously; while the very full list of illustrations is usefully classified as follows: "Architecture, Historic; Architectural Features; Decorative Features; Furniture; Interior Features; Metal-work; Method of Enlarging and Reducing Drawings; Mouldings; Vase Forms." It will be seen that the scheme of the book is worked out very comprehensively—practically also, as the accompanying drawings of moulding enrichments and key-pattern borders serve to show. Of borders generally, Mr. Fenn writes that as they are structural in suggestion, the elements employed should be simple and without the interest which is desirable in other positions. "The detail to be used is largely determined by scale and position. When on a small scale, borders may be mainly composed of a series of lines spaced so as to suggest the various features of a moulded band, in which case it is essential that the same width be maintained throughout the length, while the lines are returned at the corners at mitral angles." The key-border he describes as "a continuous narrow band or line which traces out a labyrinth pattern by bending inwards at right angles and then returning to the original direction. This, in its simplest form, is an elaboration of adjacent squares in which a top and bottom line are alternately dispensed with."

As a sound, clear, and simple exposition of the principles of decorative design, this book could not easily be surpassed. Mr. Fenn has laid all art-lovers—whether executants or not—under a lasting obligation for the skill and thoroughness with which he has produced a handbook of the highest merit, whether we regard its sound and clear exposition of principles, or the felicity and copiousness of the illustrations. The frontispiece is a masterly sketch design for an equestrian statue by E. A. Rickards, to whose rare genius Mr. Fenn pays a warm tribute in the preface.

Design and Tradition: A Short Account of the Principles and Historic Development of Architecture and the Applied Arts. By Amor Fenn. London: Chapman and Hall, Ltd. Price 30s. net.



MOULDING ENRICHMENTS.
(*From "Design and Tradition," by Amor Fenn.*)

Wealdstone Housing

At the Surveyors' Institution, Westminster, Mr. Howard Martin, official arbitrator under the Acquisition of Land (Assessment of Compensation) Act, 1919, heard a claim by the Weald Village, Ltd., against the Wealdstone Urban District Council, concerning the Council's compulsory acquisition of about 23½ acres of land for housing purposes. The land is situated in Meadow Way, Green Way, Montrose Road, and Risingholme Road, Wealdstone.

Mr. W. Craig Henderson was counsel for the claimants, while Mr. W. de B. Herbert appeared for the Council.

Mr. Cuthbert J. Lake, surveyor, gave a total valuation of £15,190, based on values of £5 to £3 per foot frontage, and including four tennis courts at £300 each and other matters. He was of opinion that but for the action of the Urban Council 19 acres would have been covered in five years. In respect of those 19 acres a frontage of 4,140 ft. was worth £3 per foot. In five years that area would be worth only £400 per acre. If Church Lane was a public highway, which he believed could be proved, his valuation would be £17,570. The fact that the land would be developed for the erection of small houses would, in his opinion, prejudicially affect the development of 20 acres of the estate adjoining to the extent of £50 per acre, and this was included in his valuation.

On behalf of the Urban Council, Mr. W. H. Bamford, district valuer, gave a total valuation of £5,592, basing it on values of £3 5s. to £3 per foot for frontage, and deferring certain portions for two and four years at 6 per cent.

The Official Arbitrator, who reserved his award, has since issued it in the following terms: "That the acquiring authority is to erect and maintain on the north boundary of the land to be acquired a sufficient and suitable fence, and is to pay the claimants the sum of £6,445 if Church Lane be not repairable at the public expense, this amount to be increased to £8,445 if Church Lane is repairable at the public expense, and I order each party to pay its own costs."

A New System of Concrete Cavity Walling

The system of construction described below is primarily intended for houses, but its scope may be regarded as unlimited. It was evolved on the assumption that a system of concrete construction with the concrete moulded *in situ*, together with a simple and easily erected form of shuttering, would, besides fulfilling all practical requirements, afford an opportunity for the wide utilisation of unskilled labour.

In the "Hayes" system, concrete walling with a 2 in. continuous air cavity has been adopted to overcome the objections to the possibility of condensation on the inner face of concrete when used in solid walls. A simple form of shuttering has been devised, together with special wall ties, which not only tie the two portions of the wall together but also act as supports for the shuttering during construction.

The shuttering consists of two external lines of timber shuttering 2 ft. in height, reinforced with specially designed straps, and to which are hinged clamping bolts for holding the tops of the shutters in position, and having angle struts attached to enforce perpendicularity. The shuttering for the 2 in. cavity consists of pressed steel shutters, with wedge-shaped ribs to facilitate striking, arranged in pairs, and a boss formed on the hinged tie bolts of the timber shutters engages with the cavity shutters to hold them vertically in position and to the required gauge.

The illustration shows 4 in. external and 4 in. internal walls, with a 2 in. cavity, giving a total thickness of 10 in. overall, although the shutters can be used for various thicknesses of walls by adjusting the boss on the tie bolts, or for solid concrete walling by omitting the cavity shutters.

To remove the shutters after concreting is completed the tie bolts are slacked off and turned back at the hinged joint, when the outside shutters can be lifted away and the cavity shutters drawn out by means of the lifting handles provided.

The hooked ends of the wall ties provide a support for the outside timber shuttering, and are afterwards cut off. The cavity shutters are slotted and are supported on the wall ties and lap on to the portion of wall previously concreted. The timber shutters are coated with a preservative, which also prevents any adherence of the concrete and thus assures easy removal.

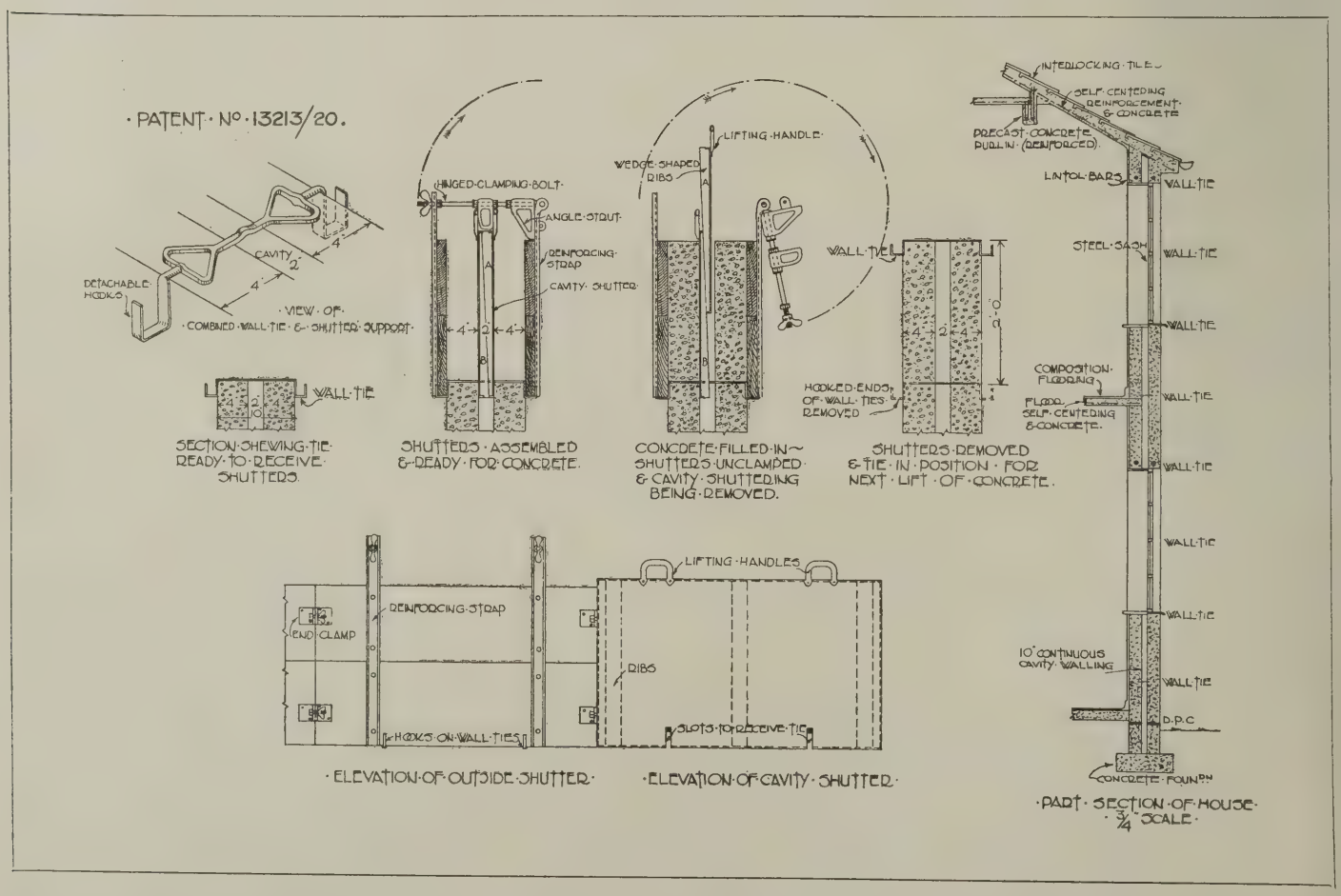
A provisional patent has been granted, and the system has the approval of the Ministry of Health.

Concrete Institute Dinner

The fifth annual dinner of the Concrete Institute was held last week at the Holborn Restaurant, the president of the Institute, Mr. E. Fiander Etchells, occupying the chair. Among those present were: Messrs. T. J. Gueritte, B.Sc., Ing.E.C.P., President-Elect, Société des Ingénieurs Civils de France; Major J. Wightman Douglas, D.S.O., R.E.; S. B. Russell, F.R.I.B.A.; Sir Charles T. Ruthen, O.B.E., F.R.I.B.A., M.C.I., President of the Society of Architects; G. Topham Forrest, F.G.S., F.R.I.B.A., Hon. M.C.I.; John W. Simpson, P.R.I.B.A.; W. B. Worthington, B.Sc. (Victoria); Rev. S. A. Alexander, M.A.; Captain H. Riall Sankey, C.B., R.E. (Retired), M.Inst.C.E., P.I.Mech.E.; C. Le Maistre, A.M.Inst. C.E., M.I.E.E.; Norman Scorgie, M.Inst.C.E.; Arthur Crow, F.R.I.B.A.; Bernard Dicksee, F.R.I.B.A., J. S. Owens, F.R.G.S., F.G.S., A.M.Inst.C.E.; H. D. Searles-Wood, F.R.I.B.A., F.R.San.I.; Captain Percy L. Marks, M.J.I., Lic.R.I.B.A.; F. E. Wentworth-Sheilds, O.B.E., M.Inst.C.E.; Sir Henry Tanner, C.B., I.S.O., C. H. Colson, O.B.E., M.Inst.C.E., M.C.I.; and Mervyn E. Macartney, B.A., F.S.A., F.R.I.B.A.

The toast of "The Concrete Institute" was proposed by Mr. John W. Simpson, who remarked how happily named it was. "Concresco"—"I grow together," and "Concretus"—"United in growth." Some there might learn with surprise that it was only twelve years old, having been founded in 1908. It had risen from zero to an important body totalling 1,111 members. If it continued to multiply in a progressing ratio by the time it reached the age of the R.I.B.A.—founded in 1834—it would comprise the whole population of the British Isles. Concluding the toast, he coupled with it the name of the President, Mr. Fiander Etchells, and said that his work on "Standard Notation" was one of the great educational works of modern times—it not only enhanced his own already brilliant reputation, but was an honour and glory to the Concrete Institute.

The President, responding, said that he had been occasioned some dismay by the receipt of a letter telling him that the Concrete Institute was misnamed, for "Insti-



THE HAYES SYSTEM OF CONCRETE CAVITY WALLING: DETAILS OF SHUTTERING.

HY-RIB as Centering for CONCRETE FLOORS

Means rapid construction at low cost and elimination of boarded timber shuttering.

Ordinary flat floor in Hy-Rib, ready for concrete being poured.
A minimum propping only. No close-boaraea shuttering necessary.

HY-RIB is used as both centering and reinforcement with any type of beam —reinforced concrete, steel or wood.

The HY-RIB is laid on the beams, then the concrete may be poured on immediately from above. When set, plaster is applied directly to the under surface.

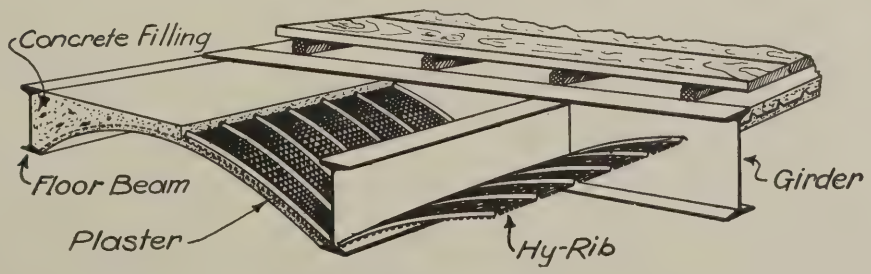
No forms or false-work necessary, only some temporary props.

FOR heavy loading as in warehouses, granaries, mills, etc., curved HY-RIB makes arched floors of great strength and rigidity.

Curving and cutting to length (if desired) is done at our works. Simply lay the sheets between the beams, pour on the concrete and the floor is made.

The wet concrete works through the mesh sufficiently to give a perfect key for plastering the underside.

Curved Hy-Rib used as centering.——————Westgate Common Mills.
Note the absence of timber shuttering or false-work.



Our new "HY-RIB HANDBOOK" is full of drawings, photos and practical information. Write to-day for your copy (post free).

THE TRUSSED CONCRETE STEEL CO., LTD.,
52, Truscon House, Cranley Gardens, South Kensington, S.W.7

THE

Cure for Damp Walls

IS

"PROTEX"

(BLACK CARBON EMULSION)

THE application of our **"PROTEX"** to the brick plaster, or other surface produces a pliable film or coating which entirely prevents the passage of any damp or moisture.

"PROTEX" never becomes hard or brittle, neither will it crack nor flake. It is easily applied, being put on cold with an ordinary brush.

"PROTEX" is a tenacious bonding medium, and plaster or cement can be affixed to any wood, metal, or other surface without the aid of any special key.

TRADE

MARK

"PROTEX" gives a perfect damp-proof film, and the plaster can be applied directly to it, without furring or lathing, saving cost of materials and labour, and economizing space.

"PROTEX" can be papered over.

"PROTEX" is supplied in ½, 1 and 2 gallon cans, 5 and 10 gallon drums, and 20 and 40 gallon casks.

Booklet with full particulars from—

GEORGE M. CALLENDER & CO., LTD.

(Dept. PX.) 25, VICTORIA STREET, LONDON, S.W.

Telegrams: "QUARRIABLE, LONDON." Telephone: 4642 VICTORIA.

te" was abstract, and was therefore an stract institute dealing with concrete. ncluding, he said that concrete was the eapest form of construction, but cheap ncrete was not economical. If concrete re used it should not be "cheap." It emed to him, he was sorry to say, that line of the present day was "Econo-se at any cost."

The toast of "The Visitors" was pro-sed by Mr. Wentworth-Sheilds, and re-nded to by the Rev. F. A. Alexander, A.

enry Saxon Snell Prize

The Henry Saxon Snell prize for 1921 l consist of fifty guineas and the medal the Royal Sanitary Institute for an ay on "Suggestions for a System of tral Hot Water Supply and Heating, pted to Modern Housing schemes, and xisting groups of Houses." The fol-ing points should be dealt with: 1 tral installation; 2 Appliances for and hods of distribution; 3 Methods of con-ing the heat; 4 Provision for continued ply during repair of system; 5 Cost, al and service; 6 Combination with r services for reducing expenses. The y is to consist of not more than 5,000 ds, to be typewritten on foolscap, one only, and to be illustrated by drawings ketches. Two competitors may com-in sending in an essay and drawings. ys must be delivered on or before ust 31, 1921, addressed to the secretary e Royal Sanitary Institute, 90, Buck-am Palace Road, London, S.W.1. The s, to be submitted without the name e competitor, and to bear a motto, ly marked on the right hand lower of the first sheet, are to be enclosed envelope, bearing the words "Henry n Snell Prize," and the competitor's at the right hand lower angle, and directed to the secretary of the Royal ary Institute. The essays are to be npanied by a letter containing the etitor's name and address, which is enclosed in a separate envelope, with a blank seal, and having on utside "The Henry Saxon Snell" and the same motto as that ed to the essay submitted.

Modern Aladdin's Lamp

e wonderful than ever was the magic of Aladdin is the electrical lamp of , for we never heard of Aladdin's casting any light, and we are sure was never half the inventive genius d to its making.

ess visit was paid to Messrs. Pope's a" Lamp Works at Willesden last when an opportunity was given to forty journalists to learn something manufacture of the carbon filament, tal filament, and the latest gas-filled lamp. There are about fifty-two es, from the preparation of the wire inal packing of the lamp. The first in the manufacture of the lamp however, begins with the cutting of ple glass tubing to form the foot amp, but not until maybe the for-ocess is there any light. Perhaps t interesting stage is that in which is exhausted from the bulb by of the delicate mercury pumps. s the vacuum forms, the filaments ighter and brighter, until, by mea-t with a fixed "standard" lamp, the vacuum is known to be complete. The bulb is then sealed off, and the lamp rapidly nears its finishing stage.

Upon leaving the works, all the visitors were entertained to lunch at the Trocadero Restaurant, when Mr. Pope, proposing the toast of the Press, referred to the old days of the carbon filament lamp, first made forty-one years ago. He said that he often thought of the opportunity he had lost in not making a collection of the different lamps he had since seen.

The Press, responding, thanked Mr. Pope for his hospitality, and for the opportunity of making the interesting tour of his works.

Other speakers were Mr. Leon Gaster, secretary of the Society of Illuminating engineers, and Mr. Marks.

Law Reports

Noted Surveyor's Action for Fees

Stenning and Partners v. Standard Shipbuilding and Engineering Co., Ltd.

December 3. King's Bench Division.
Before Mr. Justice McCardie.

This was an action by Sir Alexander Stenning and partners, of 121, Cannon Street, E.C., against the Standard Shipbuilding and Engineering Co., Ltd., of New Government Building, Great George Street, Westminster, to recover £1,100, balance of fees owing to them by the defendants for professional services rendered as surveyors and valuers. Defendants denied liability.

Mr. Holman Gregory, K.C., and Mr. H. Morris appeared for the plaintiffs; and the Attorney-General, Sir Gordon Hewart, K.C., and Mr. Branson for the defendants.

Mr. Holman Gregory said that in October, 1917, the Government took possession of certain of the defendants' properties at Chepstow, Mon., under the Defence of the Realm Act, and they served the usual notices. Plaintiffs were then employed by the defendants as their advisers with regard to the taking over of the properties and defendants' claim for compensation, and they were to be paid for their services in accordance with Ryde's scale upon the amount of the settlement. Plaintiffs were instructed to take steps with a view to the presentation of a petition of right. In December, 1917, Sir Howard Frank, on behalf of the Government, wrote defendants' solicitors asking for the fullest particulars of their interest in the property, and thereupon negotiations took place between the company and the Government, with the result that the Government purchased the defendants' interest. Throughout the whole of these negotiations the plaintiffs acted as advisers to the defendants, and did an enormous amount of work. According to Ryde's scale they were entitled to some £3,458, and plaintiffs said they were entitled to that sum, less £1,000 already paid. Plaintiffs' case was that that was reasonable remuneration for the work they did. In the alternative they claimed a further £1,100 as reasonable remuneration.

The Attorney-General said the way in which the Crown put the matter was this: When the controversy—if controversy was the right word to use—began, the question was what was this company entitled to in respect of the temporary possession which had been taken. It was done under the Defence of the Realm Regulations, and it was in that limited matter that the controversy started. The Crown said it was for the purpose of that limited matter that Sir Alexander Stenning was called in, and he agreed to take from the company a fee of 200 guineas for all his services up to the hearing of the petition of right. The Crown said that that was all and that there was no agreement beyond that. Then there came a new departure, and instead of paying anything the Admiralty desired to buy the shares of the company. There was no purchase from the company; the Admiralty bought the shares of the shareholders, and the company appointed Sir William Peat to ascertain the proper figure to be asked. Sir William Peat had recourse to Sir Alexander Stenning merely for a valuation of particular things, and the Attorney-General said for the purposes of that valuation Sir Alexander made no further valuation, but gave the figures in the valuation he made when he earned the 200 guinea fee, and now the claim was that he was entitled to Ryde's scale upon the purchase of the shares. The Crown said there was no agreement, nor was there any custom to that effect. The Crown said they had given Sir Alexander Stenning all and more than he was entitled to in paying to him the 200 guinea fee and 10s. per cent. upon £130,000. That totalled about 900 guineas, and the Government paid him £1,000 in all, which was a margin on the right side.

Mr. Holman Gregory said that 200 guineas was paid the plaintiffs for a preliminary negotiation and report, but his clients continued to advise in order to get the full price. If they were not entitled to Ryde's scale he contended that they were entitled to the moderate fee of 2,000 guineas for the work they did.

Evidence was given by the managing director of the defendant company, Mr. Caird, as to the amount of work done by the plaintiffs.

Sir Alexander Stenning gave evidence as to the work he did, the schedule he prepared, and the values be assessed. In regard to the machinery, he had the assistance of Mr. Horsley, of Messrs. Fuller, Sons, and Horsley. He sent in a bill to the defendants for 2,000 guineas. He valued the land and property—buildings—at £138,000. With regard to his charges, he thought the matter over, and thought that Ryde's scale came to a large sum, and he took two-thirds, a usual charge for county councils. It was always understood that if surveyors were engaged in building company cases or compensation cases, the scale to be paid was Ryde's scale. It was the custom or usage.

His Lordship: Surely there cannot be a custom or usage in regard to such circumstances as these? How can any custom apply to these unusual facts?

Sir Alexander said the scale of Mr. Ryde had been recognised as the scale of fees to be paid to surveyors by the railway companies. It had been adopted ever since as the scale of valuations. Ryde's scale applied to all compensation cases.

Mr. Morris said his submission was that this was a compensation case.

Sir Alexander said he was quite willing at the time of the dispute to submit his case to arbitration, and suggested that the arbitrator should be either Sir Howard Frank or Mr. Horne, M.P. Four Government departments considered the matter of his claim, and as arbitration was not accepted he came to the conclusion that the Government were playing with him, and he issued his writ.

The Attorney-General cross-examined. Sir Alexander said he arranged to take up

this matter with the company's solicitors. He relied upon a contract and agreement. The solicitors asked him his fees, and he told them, and he understood that he was to be paid by Ryde's scale. At first they had notice to acquire part only of the property, and they did not know what to do. It was a most difficult case, and they had to proceed cautiously. He advised proceeding by petition of right. Then came the question of the Government taking over the whole.

His Lordship: Ryde's scale applies to public bodies who say they are going to take land, and it is a compensation basis.

Sir Alexander: That scale is followed and practised in making valuations for all sorts of purposes, because it is considered the scale in the profession to apply in these cases.

His Lordship: Ryde's scale mentions acquisition, compulsory acquisition in regard to these charges.

Sir Alexander: It is universally used and allowed in making valuations of any sort. Witness said that there was no agreement mentioned by him in his diary or letter. He thought that this dispute ought to have been settled by Sir Howard Frank, with witnesses and another gentleman sitting with him. He did not survey the property, but inspected it.

Mr. Breach (of Messrs. Farebrother, Ellis and Co., 29, Fleet Street, E.C., and 26, Dover Street, Piccadilly, W.) said it was usual in such cases to be paid on Ryde's scale. With regard to the 2,000 guineas asked for by the plaintiffs, he considered it a very moderate fee for work done.

The hearing was adjourned to a date to be fixed.

Installation of Dust-Recovery and Cooling Plant

Keeling and Walker, Ltd., v. Sturtevant Engineering Co., Ltd.

King's Bench.

Judgment was recently delivered by one of the Official Referees in an action in the King's Bench Division in which Keeling and Walker, Ltd., of Stoke-on-Trent, sought £525 19s. 4d. damages for alleged breach of contract in connection with an installation of a dust recovery and cooling plant used in the manufacture of zinc oxide. The effect of the evidence was to show that the recovery plant in question was of the suction filter type, claimed to have advantages over the ordinary type of pressure filter used in recovering zinc oxide in the course of manufacture; that, when set to work, certain modifications were found to be necessary, but that before they could be effected Keeling and Walker, Ltd., on their own motion, altered the design of the furnace and the arrangement of hoods and connecting pipes.

After hearing Keeling and Walker's case, and without calling on the contractors, the Official Referee delivered judgment for the contractors (Sturtevant Engineering Co., Ltd.), with costs, holding that there had been no breach of contract and that the claim failed.

The counsel for the plaintiffs were Mr. Maddocks, K.C., M.P., and Mr. Sturge, and for the defendants, Sir Malcolme MacNaughten, K.C., and Mr. Theo. Mathew.

The Week's News

Housing at Pocklington.

The Ministry of Health has sanctioned a loan of £16,170 for housing.

Housing Progress at Frome.

Frome U.D.C. has decided to erect thirty-three houses in Nunney Road.

Flats for Bethnal Green.

Bethnal Green Council are converting into flats a building designed for a private asylum.

Greenwich and Concrete Blocks.

Greenwich Council has prepared a scheme for making concrete blocks from waste material.

New Cinema for Stechford.

A new cinema to accommodate 700 is to be built at Stechford. The architect is Mr. E. W. Turner.

Riccall Housing.

The R.D.C. have received the sanction of the Ministry of Health to a loan of £17,500 for housing.

Paddington Infirmary Extension.

At a cost of £38,000 a nurses' home and operating theatre are to be added to the Paddington Infirmary.

Morley Housing.

Plans are being prepared for the extension of the Victoria Road housing scheme so as to provide for seventy-two additional houses.

Housing at Colne.

The Housing Commissioner has approved the proposal of the Council to build the fifty-six houses on the Judge Fields site by direct labour.

Housing at Hessle.

The first of the U.D.C. houses on the Barrow Lane site have been opened. There are to be fifty-four houses on this site, and eighty on another site.

Clifton War Memorial.

An informal meeting of Old Cliftonians has decided that the proposed school memorial should take the form of an arched gateway at the Clifton Road entrance to the school.

Housing at Hemsworth.

The first stone has been laid of the housing scheme of the R.D.C. at South Elmsall. The Council have schemes in hand for the erection of 3,500 houses at an estimated cost of £3,500,000, and 578 are nearing completion.

Architects' Change of Address.

Messrs. Bourchier, Tatchell and Galsworthy, FF.R.I.B.A., and Mr. Geoffrey C. Wilson, A.R.I.B.A., have transferred their offices from Queen Anne's Gate to Bank Chambers, 32, Strand, W.C.2. Telephone numbers: Regent 3626 and 3627.

West Hartlepool Housing.

Several houses constructed by the West Hartlepool Corporation by direct labour are ready for occupation. The houses consist of kitchen, scullery, bathroom, and three bedrooms. One hundred and twenty houses of this type are to be erected.

Wilton Housing.

The Ministry of Health has recommended the Public Works Loan Board to grant the R.D.C. a loan of £3,132 for the purchase of the housing sites at Bemerton and Fovant, and also £44,600 for the erection of houses at Bemerton.

Shoreditch Improvements.

The Ministry of Health have under consideration a comprehensive scheme to clear 386 dwellings in Mare Street and district. The cost of acquisition of the property has been estimated at £70,000, and the struction of the necessary roads and works at £23,500, a total cost of £9 exclusive of the cost of erection of the dwellings.

Dalton War Memorial.

The Council are negotiating to obt site for the war memorial near the ra station. The memorial has been des by Mr. M. C. Oakley, of Barrow, a estimated to cost £1,000.

New Southwark Bridge.

The new Southwark Bridge, to be pleted within the next few weeks, wil five arches of cast iron, flanked by g piers. It will be 55 ft. wide, and c 35 ft. will be carriage way. On eac of the carriage way there will be a ment 10 ft. wide. The work of rebu began in 1913, the contract being gi Sir William Arrol and Co., Ltd.

35,000 *Bricks Blown Up.*

To overcome the difficulty of obt bricks for its housing scheme, Du line District Committee secured fr Earl of Elgin the huge chimneystac disused coal-pit. Razed to the gro a charge of gelignite, the stack has 35,000 bricks of good quality. Wit the foundations are being laid for military huts, as a temporary mea relief for housing.

Chichester Housing.

Concrete foundations have bee and the steel frames have been pu four of the twenty-two concrete being erected in Pound Farm Roa houses will be of the parlour type, feature will be the length of the room, which will extend from the the front of the houses, with w facing south and north. The coun template building another eighteen on a site abutting Steyne Street.

The Pompeian House.

On Wednesday evening of last very interesting lecture was given James Burford, A.R.I.B.A., of Ur College, to the members of the Ju Workers' Guild in Queen Square, bury, the subject being "The Stor Pompeian House." Mr. Burfor trated his remarks by some very lightning sketches on the blackboa afterwards exhibited some desi Pompeian colour decoration w had prepared for the lecture. Am visitors welcomed by the Master Guild were several well-known ar and a number of students from Ur College. Mr. Burford is to be co lated on his method of lecturing, held the audience thrilled.

Luxury Building Appeal.

The appeal of Mr. John Morris has been heard at the Ministry of London, before the Appeal T against an order made by the L C.C. prohibiting the alteration of ing in Camden Street into a pictur On behalf of the appellant it wa that no plasterers would be empl the works, and only four bri would be engaged, and that th ference with housing progress w very slight. It was urged on beha Corporation that some distinctio be made in the cases of pictur than in the case of industrial b which would increase employment similar applications were granted be difficult to make prohibition c the future, with the result that amount of labour would be divert housing. The appeal was dismiss

RUBEROID ROOFING

THE WEST PIER PAVILION, BRIGHTON,

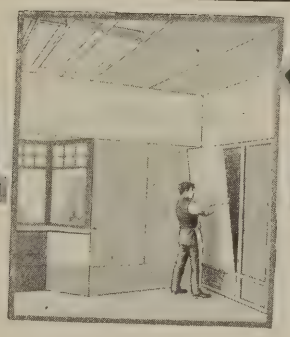
entirely roofed with Ruberoid in 1916, forms an excellent example of the efficiency of Ruberoid for buildings in exposed positions, or subjected to exceptional vibration. It is scarcely possible to test a roofing under more drastic conditions. After standing the heat of four summers and the storms of four winters, the roof is as sound as when first fixed, and for many years to come can be relied upon to remain proof against all weather. Ruberoid is unaffected by sea-air, spray, acids or alkalies. It can be used on flat, pitched or curved roofs, and laid on boards or concrete.

Our Catalogue contains illustrations of some of the many types of buildings roofed with Ruberoid during the past 29 years. It will be sent free with samples on request.

THE RUBEROID CO., Ltd., 1, Waterloo House, 81-83, Knightrider St., E.C.4

Branches: Newcastle-on-Tyne, Birmingham. *Branches: Leith, Dublin.*

Venesta Plywood



The best material for the best work

For Panelling and Partition work of every description there is nothing to equal Venesta Plywood Panels. They are unshrinkable, unsplinterable, hygienic, and non-absorbent, and their delightful surface is admirable for taking paint, enamel or polish, without preliminary preparation.

For quick, dry, and reliable construction, there is nothing better, and the result upon completion is far superior to anything possible with lath and plaster.

We also design, supply, and fix Tudor and Jacobean Period Panelling in oak, walnut, mahogany, etc., and shall be pleased to submit designs and estimates.

Write for Illustrated Booklet.

Venesta Ltd
Plywood Manufacturers
1. Great Tower Street, London, E.C.3

Telephone: London Wall 4760 (5 lines).

CONTENTS.

Edited by PROFESSOR A. E. RICHARDSON, F.R.I.B.A.

The Building Operatives' Great Refusal 673

Ministry of Health Bill Defeated; St. Paul's Chapter House; The Downing Street Enclosure; The British School at Rome 674

The Everyman Theatre. By H. J. B.

Architectural Causerie: About the Scillies. By Aero 676

The Civic Survey Conference at the R.I.B.A. 677

The Improvement of London. By Thomas E. Collcutt, Past-President, R.I.B.A. 678

Mr. J. C. Proctor on Current Topics 681

Our Special Issue 681

The City Companies and their Halls. By H. W. Wills, F.R.I.B.A. ... 682

"The Art of E. A. Rickards" ... 685

Correspondence 686

Pantomime in Bedford Square ... 691

Enquiries Answered 691

Construction 14.—Building in Pisé de Terre 692

Book Notice 696

Edinburgh Architectural Association 696

Standardised Bills of Quantities ... 697

Law Report 697

Electrical Development 697

Saracenic Architecture Discussion ... 698

Housing Progress 698

The Week's News 698

Current Prices of Materials xix

Complete List of Contracts Open ... xxii

ILLUSTRATIONS:

Michelangelo 671

Modern American Architecture. 11.—Bridgeport Savings Bank, Bridgeport, Conn. Cass Gilbert, architect ... ...

The Everyman Theatre, Hampstead. Model with Roof Removed; Section of Model ...

Modern Architecture 2.—The Egyptian Halls, Union Street, Glasgow. Alexander "Greek" Thomson, architect ... ...

Italian Villas 4.—Selected Examples from Scheult ... ...

Architects' Working Drawings 23.—The Museum, Letchworth: Detail of Main Façade. Barry Parker, F.R.I.B.A., M.T.P.I., architect ... 688

"Safe Live Load on Bridge" ...

Pisé Cottage at Ministry of Agriculture and Fisheries, Amesbury Farm Settlement, Wilts. 692, 69

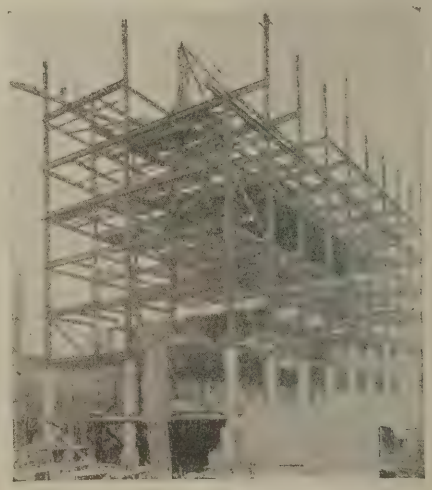
Details of Shuttering for Pisé Walling ... ...

DAWNAY DEFINITIONS—3.

CONFIDENCE.

CONFIDENCE is the basis of all successful enterprise. To be able to count on material being right, and the service being progressive is half the battle. As we can guarantee this, the moral of this announcement is obvious. Send us your enquiries for constructional material.

Stocks of
British Standard Sections in Joists, Channels, Angles, Tees, Flats, etc.



ARCHIBALD D. DAWNA

AND SONS, Limited.

Telephones: Battersea, 1094. (3 lines).

Steelworks Road, Battersea, S.W.11

Telegrams: "Dawnay, Battsq London."

Telephone: Cardiff, 2557.

And at East Moors, Cardiff.

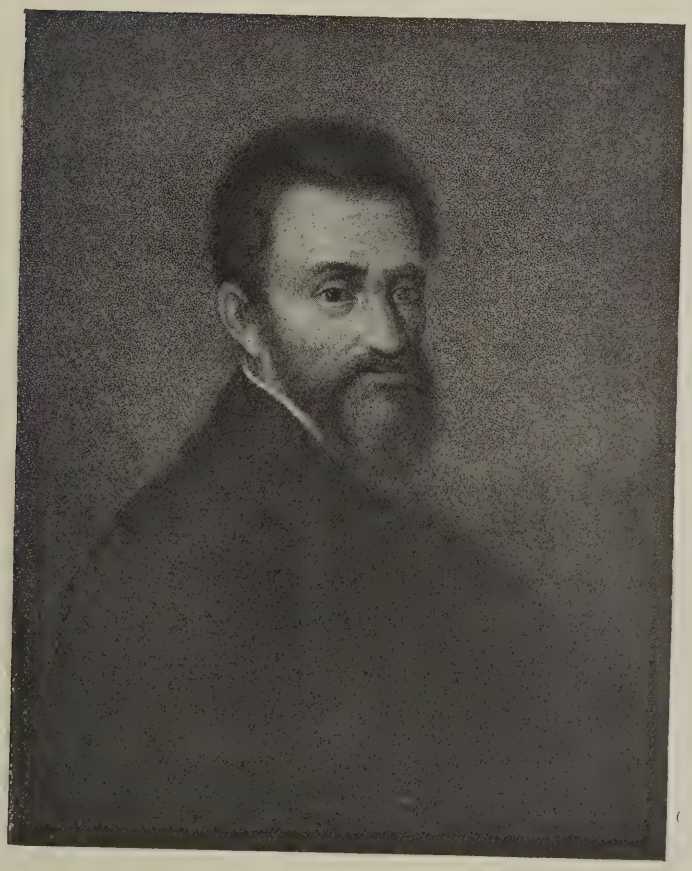
Telegrams: "Dawnay, Card

nesday, December 22, 1920

Volume LII. No. 1355

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"



MICHELANGELO (1475-1564).

Sculptor, architect, painter, and poet, and the most fertile and prolific artist of his age. A pupil of Lorenzo de Medici. Painted the vault of the Sistine Chapel and undertook the ornamentation of the façade of San Lorenzo, Florence. Was appointed Architect-in-Chief to St. Peter's, Rome, in 1547.

27-29 Tothill Street, Westminster, S.W.1.

Modern American Architecture. II.—Bridgeport Savings Bank, Bridgeport, Conn.

Cass Gilbert, Architect

We publish above the second of a series of photographs of the work of Mr. Cass Gilbert. The building, a fine example of art in the monumental manner, is constructed of white marble, and is typical of American banks of about this size. It was completed in 1918 at a cost, approximately, of $289,343.00. Its dimensions are 85 feet by 65 feet.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

ednesday, December 22, 1920. Volume LII. No. 1355

The Building Operatives' Great Refusal

HRISTMASTIDE, the season specially dedicated to peace, goodwill, and harmony, finds the building operatives in a very inappropriate temper. They have stubbornly refused neet the Minister of Labour to discuss the Govern-nt proposals for the admission of ex-Service men to building trade, this being the Government scheme reducing the formidable number of the unemployed, for accelerating the progress of housing.

his sullen attitude on the part of the workers pro-es the rather pointed question, Are they being mis-dled? The men are grossly unreasonable: granted. may not this be a consequence of want of sympathy them, of a rather serious misinterpretation of their ittedly baffling psychology?

ake the case of the bricklayers. They resent the tant gibes at their rate of production. Should not re sympathetic attitude towards them be tried? Let lance for a moment at this typical instance of brick-g.

he truth about bricklaying is curiously elusive. the one hand, it is constantly alleged that klayers do not work at half the rate of speed which they could go if they cared to extend selves: on the other, that this is sheer calumny. Pall Mall Gazette'" investigator of the subject proved nothing except the difficulty of ascer-nent, and the impossibility of saying quite definitely many bricks a man should lay in a day. The er of bricks a skilled man could lay in a day, the Mall" investigator has been told, "depended ly on the class of work. On some simple jobs, 750 en 1,000 bricks would constitute a fair day's work, n special work a good output might be 250." Quite Every architect and every practical builder knows It is the Scribes and Pharisees—the leader-writer he Times" or the joke-manufacturer in "Punch" through ignorance or malice bring exaggerated es against the bricklayer.

he same copy of the "Pall Mall" in which the igator records the disclaimer of an official of the ayers' union, there is a leader in which this passage rs: "It is the effort to extort a double wage for a ay's work that has made manufacture too costly s products unsaleable." Now there is so much n this assertion that there was no need to resort orical methods. There is not the slightest doubt peratives in all trades are doing less work for more . It is a very unwholesome state of affairs, for a remedy must be found promptly if national ptcy is to be averted. At the present moment it re all things necessary that the operatives, not the building trades, but in every industry, should e reason and common-sense. To bring them to me of mind, it is desirable, first of all, to reason em, to show them quite clearly the disasters that await a continuance of the unnatural and unnecessary combination of inflated wages and diminished output. There is not the slightest need to exaggerate the case. Wild talk about twice the wage and half the output merely inflames the temper and hardens the hearts of the men whose confidence and sympathy are essential to that industrial peace which is the first condition of national prosperity.

It is chiefly because we believe that architects will introduce a blander tone and temper into the Builders' Parliament that we welcome the appointment to it of representatives of the Institute and of the Society of Architects; and it is because we are very sure that the closer co-operation of architects with contractors and operatives will be of all-round benefit that we have constantly urged members of the Profession—especially the younger members—to take every opportunity of studying labour questions at first hand. It is for this reason, and with the object of keeping the architect in sufficiently close touch with practical problems to be able to handle them deftly when he was called upon to deal with them, as we felt quite certain that ultimately he would be, that we have lost no legitimate opportunity of commenting regularly on labour problems as they have arisen. These problems we have always endeavoured to treat from the standpoint of the architect, who has the disinterested object of arriving at the facts rather than that of taking sides or securing a victory.

It is in this spirit that we approach our brief reference to the crisis that has unfortunately occurred on the proposed dilution of labour. Last Friday it was announced that the building trades union representatives had declined to discuss this matter with the Labour Minister. If only they could see themselves as others see them, they would surely feel ashamed at the sorry figure they cut, to the serious discredit of trades-unionism in general. They do themselves, and trade-union principles, an injustice, by provoking caustic and even angry criticism. We do not think that all the blame for this refusal to negotiate should be thrown on the Federation of Operatives. It is a clumsy tactical blunder, but in that respect it is even excelled by clumsier tactics on the part of the Government, whose attitude was, in effect, "Enough of shilly-shallying. Here is our ultimatum: come and yield your assent to it." On each side there has been no little display of temper. But even yet the operatives are surely not beyond the reach of persuasion. They seemed to be on the point of seeing the necessity and the humanity of admitting to their ranks a proportion of the two hundred thousand and more of unemployed ex-Service men, whose energies could be used with profit to the community in the provision of houses for which the need grows more urgent every day. If the negotiations had not been badly bungled on both sides, the matter might have been amicably settled months ago; instead of which we are once again in the throes

of a Labour crisis whereof no man can foretell the end. If the Government had had the wisdom to take the advice tendered repeatedly by the Institute and by the Federation, and had left the building industry to manage its own affairs, the present very serious crisis would probably not have occurred. It is largely the outcome of extravagant offers unfulfilled—offers such as men of business would never have made; and balked hopes make bad blood even between friends. And, alas! Labour and the Government are not friends.

Ministry of Health Bill Defeated

When, on Tuesday of last week, the Lords threw out the Ministry of Health Bill, they did housing an ill-turn, and created a serious predicament for many a private builder. Under the law as it stands, the payment of the full subsidy after December 23 will need some other form of legalisation. For four months, only a proportional payment can be made. This embarrassment, as unexpected as it is unpleasant, will have a serious effect on the progress of housing. For builders who have been depending on the subsidy it may in many instances mean very vexatious delay, as, on the strength of Government promises and encouragement, they have entered into financial obligations that it now seems difficult or impossible to fulfil within the agreed time. They need not despair, however. Disaster will not overtake them, for Dr. Addison was prompt to make the reassuring statement that, while it is not possible to do anything this session, those who have acted on the distinct pledge that the subsidy time would be extended will not be allowed to suffer loss. Dr. Addison will keep this promise, if he remains long enough in office; and if by any lightning stroke of ill-luck he is soon superseded, his successor must be reminded of this debt of honour.

St. Paul's Chapter House

Impulsive and warmhearted youth was ever swift to quarrel and generous to atone. A few knights-errant of this noble breed have given the Dean of St. Paul's a taste of their quality, and he has given them a taste of his. On both sides the flavour was of the finest; inasmuch as the little army of student-architects who marched boldly up Ludgate Hill prepared to scoff remained to pray. To their amazement and joy, they discovered that on a close personal inspection the expression "Gloomy Dean" as applied to the genial and humorous Dr. Inge is a slanderous misnomer. What passed between them at this momentous interview is left to conjecture. We are not told (and it were mere impertinence to inquire) whether the fiery insurgents were mollified with meat-offerings, or whether the levity of esurient youth was induced by an oblation of "the gay Sally Lunn, the rollicking bun," and the subtle "brew of the Vicar" (three spoons to the pot, and an insidious love-philtre thrown in). But whether by material feastings, or by a feast of reason and a flow of soul, or by John Wellington Wells magic, or by the more potent charm of a magnetic personality (for "Gloomy Dean" is newspaper fudge), Dr. Inge converted potential foes into enthusiastic friends. Like Saul before he became St. Paul, they went forth breathing out threatenings and slaughter, and before they left the Dean they had graciously accepted his apologies for turning the chapter-house into a den of money-changers, and had promised to collect subscriptions towards the preservation of St. Paul's! So complete was the revulsion that they who had borne through the muddy streets a banner with this strange device, "Sir Christopher Wren Outraged," could in the end hardly restrain themselves from vociferating the ancient hymn to Apollo beginning, "For he's a jolly." Dr. Inge gave them the assurance that, by the terms of the lease to Messrs. Lloyds, the bankers, to whom it has been let, the Chapter -house will be thoroughly safeguarded from harm. That guarantee is comforting as far as it goes; but it does not recor one to the conversion to secular uses of a building Wren designed as an appanage of St. Paul's. Foll ing so closely on the threat to nineteen of the churches, this leasing of the Chapter-house to a firn bankers is a most disconcerting symptom. It can mean one of two things—either that the Church has little regard for venerable buildings, or that the times have reduced it to selling or pawning its heirlo The latter explanation is doubtless the more true one well as incomparably the more respectable; but, in ei case, dignity goes by the board. Those spirited placable student-architects showed as generous instinct in protesting against the desecration of Chapter-house as they did in condoning it. Tl was surely the most righteous and most decorous of r and it has performed some slight degree of public se by pointedly drawing attention to what, after all, is short of a public scandal. That the Chapter-house highly respectable and indeed super-excellent ten and that at their hands it will suffer but little wear-tear and no irreparable damage, is but a solitary dro a cup of exceeding bitterness.

The Downing Street Enclosure

When are we to be relieved of the barriers that figure each end of Downing Street, destroying amenities of Parliament Street and the Park? difficult to understand their use. They would fall a first onslaught of a determined mob, and they are ut futile as a protection against bombs. It may be they have been put up for a different purpose— defence against peaceful penetration rather than to stand warlike assault. Certainly there are some sensitive Ministers who wilt beneath the gaze of cu eyes; and, in fact, nobody likes the risk of being gonised from head to foot with a stony English s When a Cabinet Council is being held idle cr assemble in Downing Street, to see whether the Min bear any resemblance to the caricatures of them i papers, and this ordeal might well be avoided. wooden barriers serve this purpose; but the iron f which, it is said, are to succeed them will hardly effectual: the curious will be able to peep throug railings, unless these are blocked—in which case i not be easy to grace them with artistic design. will, at all events, be useful in keeping sacrosan enclosure in which the Prime Minister will not be j while plying his latch-key.

The British School at Rome

That was a very eloquent eulogy of the British S at Rome which Mr. Asquith made the other day meeting held in the rooms of the Society of Antiq at Burlington House. While, however, he made recognition of the fine work the School is doing classical scholarship by expanding its horizon, he d mention specifically the light it is shedding on architecture—at least, that detail is omitted fron reports of his speech that we have seen. An obser of his that by implication concerns architecture closely was that on the desirability of giving publicity to "the admirable series of papers rec the work of the School." Such a proposition seem banal if one were unaware of the vicious prop of learned societies—we are not referring specially British School at Rome, which is not so remiss as others—of hiding their reports in pigeon-holes, keeping them in almost equal obscurity in the pa official circulars. We should like to see the archite department of the School making greater use o technical Press, thus bringing their important disco more directly under the notice of that section o community to whom they would be of most us interest.

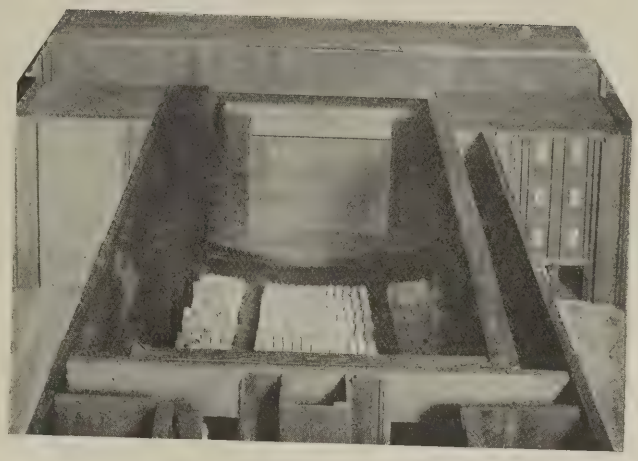
The Everyman Theatre

ROMINENT among the many vital movements of the day is the attempt to redeem the theatre from its present none too exalted position in the national life. On the Continent and in erica much experimental work was done before the regarding both the method and subject of represen-n, but in London the situation has always been ult, owing partly to the scarcity and consequent high of theatres. And this difficulty is now very much ased. Whereas before the war £200 to £250 a week deemed a fair price for a house of moderate accom-ation, to-day £400 or £500 is demanded.

rthermore, building becomes a matter which cannot ghtly undertaken, for, in addition to the increased the labour situation renders the length of the period red for building so uncertain that the question of nd-rent and loss of interest on capital during such definite period becomes a serious matter. The fact the present Opera House at Covent Garden was leted in six months seems now, when building has ne such a precarious and dilatory procedure, to be igh fabulous. However, despite these obstacles, resent demand for theatres is one that will be met, he enormous expenses are very hampering to the producer who wishes to experiment with new ods and new material, for financial success under iling conditions is only to be obtained by a "long

Realising this, the Everyman Theatre Company, was formed for the purpose of producing plays of nds entirely on their own merits, and to give exhibi-of all the arts ancillary to the drama, decided to a theatre at Golder's Green, far away from the ed circle of the West End. The continued success braham Lincoln" at a previously entirely unknown e in Hammersmith is conclusive evidence that are prepared to leave the West End if the attrac-rovided elsewhere be sufficiently enticing.

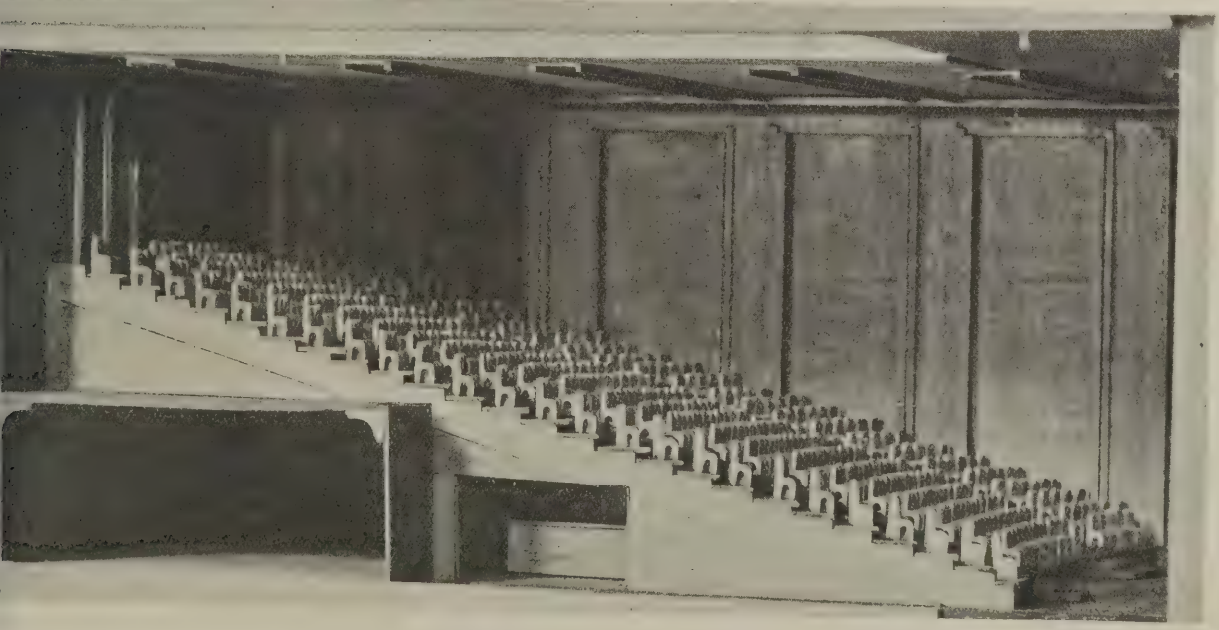
ore the work was undertaken Mr. Norman ermott, who is the director of the company, pre-a model of the theatre, in the construction of which arture has been made from the usual semi-circular rium of the present day to a simple rectangular with a raking floor and without galleries or boxes. eral conception the theatre is similar to Professor ann's Kunstler Theatre at Munich. The seating accommodates 675 persons. The entrance to the building is through a vestibule, in which are situated the pay offices, and from which the auditorium is reached, either by a staircase leading to the back of the seats, or through the foyer to corridors, which give access to the front seats. The foyer itself is situated under the back seats, and runs across the auditorium. The front row of seats is some distance from the curtain, in order to allow space for an apron stage. Thus, if necessary, a reversion may be made to the Elizabethan tradition of an apron stage, and possibly an upper stage for battlement scenes and the like. Furthermore, there is sufficient space reserved in front of the auditorium to handle a crowd or chorus, a procedure sometimes adopted with the revival of Greek drama. The stage is fitted with a "dome-horizon," and other modern improvements for lighting and setting scenes. The modern tendency is one of suggestion and synthesis rather than of realism.



MODEL WITH ROOF REMOVED.

As the site is an open one, no restrictive limitations were set upon the disposition of the plan, which is T-shaped; the dressing-rooms, of which there is a very liberal supply, are situated in wings on either side of the stage. They are connected by a passage over the proscenium opening; there is also large wardrobe and storage accommodation.

H. J. B.



THE EVERYMAN THEATRE, HAMPSTEAD: SECTION OF MODEL.

Architectural Causerie: About the Scilli

(Concluded from last week.)

FROM a discussion of roofing methods, we can turn to the chief object of architectural interest —namely, the Castle of the Star, which, together with the Garrison, dominates the pleasant assemblage of roofs and chimney-stacks on the sandy peninsula below. Star Castle is a splendid example of Elizabethan fortress architecture. It was built in 1593, evidently to protect the islanders from a Spanish threat, or perhaps to scare off the Algerian pirates who had the temerity to sail as far as Penzance.

* * *

A few weeks ago, pencil in hand, I made a plan of this interesting building, which, curiously enough, records the love of the Elizabethan designer for plan patternings, a taste evidently caught from the fashionings of Du Cerceau. Star Castle in plan consists of eight salient angles, each projecting twenty-four feet, in every point of which, save one which is unroofed, is a watch-house. A platform about seven feet high and as many feet wide connects the whole of the interior, and this is surmounted by a wall or breastwork of nearly the same height, the whole parapet being pierced for 96 musketoons. Let me add, there is nothing like a personal survey, as Heath's view is incorrect.

* * *

On the outside the height of the walls approximates to 18 ft. Within is the dwelling-house, corresponding in shape to the castle, and perhaps, on account of the stellar patterning of the plan, very incommodious. Charles the Second, when a fugitive, complained very bitterly of the accommodation. Possibly he left the garrison without regrets. The house is separated from the platform by a passage or foss of about 4 ft. in width. In the basement of the house the rooms are low and gloomy. There is one large room with a granite fireplace, magnificently wrought with moulded jambs and stops of intricate design. This fireplace still boasts its Doric columns of oak, and an interior revealing the hand of Abraham Tovey, the Hanoverian gunner aforesaid. Behind this large room are three apartments, one being the kitchen for the garrison, with a fireplace almost recalling, though not very distinctly, those in Henry the Eighth's kitchen at Hampton Court.

* * *

The height of the walls of the house from the base court is nearly 22 ft., one-third of which lies below the platform. In consequence the lower rooms are almost as dark as the basement of a London town house. Another third of the vertical walling of the house lies hidden behind the breastwork. Hence it is that the remainder of the house within the walls, with its peaked roofs peeping over the ramparts, appears comparatively low. One has the odd feeling that the domestic part of the castle has assumed the spirit of the Georgian military commandant, who is half-shy, half-fearful of his responsibilities in guarding St. Mary's. You enter Star Castle by means of a small stone bridge thrown over a dry ditch, and then go through an elaborate tower embellished in Tudor taste, with the letters

E.R.
1593.

very boldly done in granite. Facing the entrance is an opening for a long culverin, and behind this you may finger the grooved setment for the portcullis, on occasions used.

* * *

Now, Star Castle, in spite of its intricate plan, its squints for musketoons, its rally-posts, dry ditch, and bridge, as well as its gun platform, was a weak p even in the year 1593. When George the S enjoyed the services of Abraham Tovey, the n gunner, it was, comparatively speaking, the we fortress in England, and this in spite of the eig batteries, calculated to protect Hughtown and the and to dispute the passage of the Sound to the F and Spaniards.

* * *

Abraham Tovey superintended the roads, built a gazebo, laid out the barracks on lines of rigid disci took out the Elizabethan panel which containe initials E.R. over the main entrance to the Garrison substituted in lieu thereof:

G.R. 1742.
A.T.

* * *

Having dealt with the Castle and the garrison, v talk of Hughtown, the principal place in the S Hughtown practically covers the low sandy pen which joins St. Mary's to the hill called the Hugh. is one principal street in the town, a street wh delightfully irregular and simple in its display of washed scenery, interspersed with granite and You walk the pavement warily, stepping from one stone to another. There are a few delightful old in the town, mostly Selfridges in miniature, sprinkling of inns, and two good hotels. Whe reach the north end of the principal street you between two mighty piers, built in 1601, and so rea harbour quay. On the contrary, when you lea deck of the steamer to walk the quay you have li to pass between this almost gate. It is very oc comic, but truly Scillonian. The pier, or part belongs to the last years of Elizabeth's reign, but parts were rebuilt between the years 1749-17 Francis Earl of Godolphin. During recent yea pier has been extended to Rat Island.

* * *

Quite near the pier is a small square, with excellent houses of late eighteenth-century cha rather similar to those near Penzance on the ma By far the most interesting dwelling is that call Steward House, near the end of the principal which is built of dressed granite. Save for the r of the original sash bars, this house is much as it v in 1775. The wooden railing with the vases, th shaped stones to the piers, and the scale of the ro proclaim it to be the house of a man of authorit may not have been above a little surreptitious tra with France. Farther on you may enjoy the Para the pleasant group of houses forming the eigh century residential centre, before the villas carr street to Great William the Fourth's Church. end of this street, on either side of the church, Tovey's roads branch off into the country, but n stones record the distances and no signposts are re

* * *

I could speak of Tresco Abbey, with its gardens, of Bryher and of Sampson, of the pass Penzance; the visitor must judge, for it is, Scillonians say, sometimes fair and sometimes fou real wonder is that the building traditions of El and of the four Georges found a footing on these the old days forty miles from Penzance, and a unapproachable. May the Fortunate Isles be lo served from the demons of vulgarity is the fervent

A

he Civic Survey Conference at the R.I.B.A.

a conference held at the R.I.B.A. last week on the civic survey in relation to town-planning and er London, the speakers, who ed Professor Adshead and Mr. ond Unwin, had much to say on the tance of maps, and the point was that these should be undertaken by bodies who would consider the inte- of the public rather than of the s. It was pointed out that cities o develop along the lines of com- ation, leaving wedge-shaped areas n country which should be partially ved at all costs in order to create en zones which are of vital import- the health of the inhabitants.

Plymouth, who presided, spoke of cessity of smoke abatement, while peakers emphasised the evils which from the indiscriminate mixing of ial with residential buildings, espe- n view of the fact that the by-laws nuch greater latitude to industrial g in the way of swallowing up back s and open spaces generally.

Tall Tenements

vexed question of high versus low gs was touched on by a speaker enty years' experience in Bombay, voured six-storeyed tenements pro- hat open spaces were attached for of the tenants, and his argument engthened by another speaker, Sir s Fox, who stated that a trust in llings of the working classes, with oll of £100,000, had found this the most satisfactory after many trial.

ohn W. Simpson, P.R.I.B.A., in- l the subject, and remarked that veying was, one might say, a new and it was doubtful if one would y much about it in any text-book, in the "Encyclopædia Britan- nless one looked it up under the headings "and combined the in- n!"

Plymouth said he had taken a erest in the subject for the past ten years. There were two points d to emphasise: one was the very portance of the work which was ndertaken, and which had pro- fine a result as the exhibition now em, and the other was that this nost opportune time for consider- question very carefully. Not only nicipal authorities throughout the live to the necessity of providing re housing accommodation than erto been provided, but of im- mmunication between one centre ner.

or Patrick Abercrombie, ., said that among the minor ich had been taught by the war use and interest of a map. We it for military reasons the value alleys and the strategic import- ne sites of old towns; but it was ally recognised that the same hose conditions which was neces- military purposes was equally for the same people when pon peaceful development.

losophy of regional survey was n the following sentence of Prof. Bosanquet: "The neighbour- t a selection, but rather a speci- men of life as a whole; for it must include, as a rule, all the necessary elements of the social fabric." And yet how few of us really knew the real content of our neighbourhood. We might know certain aspects of it, but few thought of it as a whole made up of related parts, or pictured the inter-action between its physical conditions and its human activities as an evolution. Still less had the community had a sense of regional consciousness. If it had, it would have appraised the value of the factors in its environment, severally and in combination, with an eye to the ordering of its own social geography. The industrial revolution brought England wealth, but it had given us also a highly unsatisfactory social geography, in the main unfavourable to the growth of the sense of communal solidarity. And this had happened because only certain elements in the environment were utilised, and those chiefly for economic ends, because there was appreciation of the milieu as such.

Perhaps one of the most valuable gifts to us from the war had been the application of photography to the making of aerial surveys, and every town should possess its aerial survey, carefully explained by key-plans.

If architecture was so appreciated in the eighteenth century, town-planning should be equally understood in the twentieth.

Professor S. D. Adshead, F.R.I.B.A., said that it had always seemed to him that much of the work which could be undertaken under the title of civic survey was for most practical purposes unnecessary. He had seen most elaborate analyses of town conditions and classifications of town conditions, listed as work for the civic survey, and he had been generally inclined to think that much of the information proposed to be collected in order to complete such classifications would be, when finished, too obvious to be of much use, or too remote to be of practical utility.

Facts and Deductions

He did not wish to ignore the value of the civic survey: he was extremely alive to its importance; but he felt that there was no undertaking in which so many temptations arose to undertake laborious work merely to complete, what was, after all, but an artificial schedule.

If the preparation of a civic survey were to be of real practical value to the town planner, there would have to be a much more careful review. Statistics displayed in a graphic survey should be presented in two phases—in the one, maps to present simple facts, and in the other direct deductions.

Mr. Raymond Unwin, F.R.I.B.A., said that a city survey was essential, as a preliminary inquiry, to adequate town planning, and still more to city improvement and development upon any considerable scale. A great effort was now being made to control and guide the development of towns instead of leaving them to grow haphazard. But the town planner was faced with enormous difficulties. He found hundreds of thousands of people gathered together in a vast urban agglomeration, and he had little accurate information as to their habits, needs, and the conveniences which their business and their industry required. It was this which the civic survey sought to give him, by laying before him in a form, easily apprehended, the results of a sociological and economic investigation into the conditions and needs of the population, for whose future welfare it was his business to provide.

Mr. G. L. Pepler, F.S.I., said that he thought so far as practice in zoning had gone in this country the matter had been approached rather too much from the point of view of protecting existing residential areas and not enough with a view to increasing industrial efficiency. Probably the councils had not felt competent to dogmatise because the necessary preliminary study and investigation had not been undertaken and no general principles by which they might be guided had yet been evolved.

The Industrial Side

Some of the points that it seemed desirable a civic survey should cover in order that the industrial side of town planning might be effective were:

1. Historical.—(a) The growth of population and how employed. (b) The reasons for the industries of the town having been established in that particular locality. (c) The recent growth and present location of industries and their nature. (d) Industries that have left the area and the reasons for their leaving. (e) Changes that have taken place in the character of property and the reasons for the change, e.g., factories erected in place of dwellings, large houses and grounds cut up for cottages or villas. (f) A report should also be made as to whether such changes as have taken and are taking place are in all cases desirable and whether they should be encouraged or checked. (g) A brief history of the development of transport and other facilities in the area. 2. The General Contours of the Land.—Probably as a general rule the low-lying land would be more suitable for factories than for dwellings, as the roads, railways, and canals tend to follow the valleys. Also an intervening hill, if there were an easy way round, might serve as a useful barrier between industrial and residential property. Steep sites might be extravagant or useless for building, but valuable as open spaces. Sloping sites, however, were advantageous for certain industries, such as paper mills. Factories producing powders that absorb moisture, and lace or embroidery factories, require dry atmosphere, and should therefore as a rule have a high location. 3. Geological.—The value of soils for agricultural or other purposes would be a factor to take into account in allotting areas for particular purposes. Also dry sub-soils were best for housing and industrial sites. Any valuable deposits of gravel, brick, clay, or other minerals should be located. 4. Meteorological. 5. Communications. 6. Power and Service. 7. Prospective Industries. 8. Labour. 9. Housing Accommodation. 10. Density of Population.

The difficulty with regard to Greater London was that the field to be covered was so vast and the number of interests to be harmonised so many. A commencement had been made, however, and the arterial road conferences showed that a larger measure of agreement was possible.

The admirable civic survey for Greater London which was embarked on during

the war, and the result of which they saw hung on the walls of the room, collected a lot of valuable data, but unfortunately was incomplete, and no one could pretend to pronounce any definite opinion unless based on a complete survey for the whole region.

Of recent years there had been a marked tendency for industry to move from Central London to the outskirts or right away. In particular there had been phenomenal industrial development to the west at Acton, Hayes, Southall, Greenford, etc., where canal accommodation was available and the Great Western Railway could absorb extra traffic and distribute it so widely from the junction at Reading. Also much land had been taken up for factories on the riverside east of London. On the other hand, nearer the centre there had been a considerable absorption of dwelling houses by commercial undertakings. These changes had not followed any definite plan, and what seemed to be required was a careful survey of the evidence of these tendencies of movement in particular directions, so that a plan might be evolved for the whole area to direct wisely into the proper nels the inevitable evolution and adequate provision, so that the plac suited for the various functions mi used for the purpose.

If this information were collect the whole area and shown in graphi everyone would be able to apprecia only the wastefulness of present me but also the enormous possibilities o great city and to recognise the ec and social value of any wise plan of struction and development based on tained facts.

The Improvement of London*

By THOMAS E. COLLCUTT, Past President R.I.B.A.

STRIVE for and accomplish all that is possible for the better housing of the people, we still have a submerged tenth to consider. But I would ask whether a clean sweep of this "Augean stable" cannot be attempted. Must we always have the poor with us We think it expedient to accept this saying as a Divine precept; with a shrug of relief.

The schemes being carried out by the London County Council for the accommodation of a vast number of manual workers appear to be developing very rapidly, and in a satisfactory manner, though they can only be considered a partial solution of this difficult housing problem. They form entirely new areas of population, but add in an alarming degree to an already overgrown town. It appears to have been taken for granted that expansion must be outwards—nevertheless it may be questioned whether outward expansion will adequately relieve the wants and desires of the workers and of the community as a whole. The consequence of continued expansion will mean that traffic by rail, tram, and 'bus will be greatly increased. I would ask whether in place of new residential centres it would not have been more desirable to create new industrial centres on the outskirts. A beginning in this direction has been made in many places on the Great Western Railway and other railways.

The tastes and preferences of the Londoner as compared with those of the country-born cannot be ignored. It is doubtful whether these have been sufficiently considered. There is no doubt that a very large proportion of Londoners would rather live in London than in the country or the suburbs. There are a vast number of people whose occupation makes it necessary they should live near their work. If these workers could be provided with suitable homes inside London it would tend to lessen the cost of production in many ways.

The Slums

It is for architects seriously to consider any remedy, even though it be a partial one, which will tend towards obliteration of some of our London slums. In a letter to the "Daily Telegraph" in April last, I suggested that an area of about 150 acres on the south side of the river should be acquired for the purpose of building workmen's and middle-class dwellings in the form of flats, that a large area immediately abutting on the river should be devoted to business premises and public buildings and gardens. This would involve the removal of the wharves fronting on the river, and the clearance of a large area chiefly composed of slums. There is no valid reason why these wharves could not be removed to other districts without detriment to their business.

Improving the South Side

There are those who decry any suggestion to improve the south side of the river, pleading that under some atmospheres it is picturesque. Perhaps this is so when it is looked at from the northern side, whence the foulness of it cannot be seen. There is no doubt that in future, whenever the opportunity arises and the surroundings are suitable, we must build upwards. The proposal put forward by Sir Martin Conway for an upward expansion of London is most admirable, but at the same time we do not wish to emulate the New York skyscrapers. There is no valid reason why flats for all classes should not be built to a height of twenty storeys on the embankment which is suggested should be formed on the south side of the river.

The number of residential flats in London is increasing annually; at least this was the case before the war and probably will be again in the future. We all know how great is the demand for this class of residence, notwithstanding that in very many instances some of the rooms receive light from internal areas only. Flats may generally be taken to be a height of six floors, the height being restricted by the conditions of the London Building Acts. If there were no such restrictions they could be built to a height of twenty or more storeys, the topmost storey being a more desirable residence than the lowest one. When properly planned they are as isolated as the ordinary street residence, and occupants of adjoining flats need meet only in the lifts.

Where there is a sufficient area on which to embark on a large building undertaking, with an outlook over the river, structures of an elevation of 200 to 250 feet would not create an overpowering effect, especially as each block would require a certain amount of space around—at least 55 degrees of light to ground floor windows—thus ensuring that neither building would be overshadowed by its neighbour. It should be remembered that the Savoy Hotel, facing the Embankment, is 138 feet high. The Hotel Cecil is considerably higher. I may say that not a brick need be used in the construction of a block of flats such as I have described. This would mean, of course, a drastic revision of the Building Acts. As they now stand they are universally condem being altogether out of date.

I remember hearing Gladstone that Italians were the only peopl built in a large and palatial mann see that this is true when we c that Pitti Palace, in Florence, comprised of three storeys only, is from pavement to cornice. It c does not give the impression of be normally high. We have not f other nations in regard to the he our churches and other public bui consequently, although not infe beauty they sometimes lack the in quality which mere size so often

In order to allow me to speak wit little authority on residential f thought it desirable to make p various groups. I thus found th dwelling could be approached from common to all, that each room cou direct and unobstructed light, and such things as slop pails, etc., necessitate a space open to the air, of balcony might be made an a architectural feature. Bachelo spinster residences could be design suites, two or three rooms, or a c of one room, very similar to th students in Eton School. With ception of slightly increased dim these proposals, so far as accomm is concerned, comply with the ments of the Local Government Bo those who are familiar with these ments it will be obvious that they all that is necessary for the needs families of the middle classes as those of the working class.

St. Paul's Bridge

In addition to the urgency housing question, there is ver need for further business accomm in the heart of the City. I sugg this can be met to a large ext simple and practical manner. T ing of a bridge starting from St Churchyard has been in abeyan 1914. It is now proposed to proc the scheme, and at a large inc cost. My proposal is that the ap on both sides should be form streets, and that these streets s continued across the river. The be carried on arches similar to th of Waterloo Bridge. I am assur eminent bridge engineer that my would entail no engineering di either as regards the substructu extra width of bridge. The tot would be 150 feet, rather less railway bridge adjoining Bl

* Excerpts from a paper read before the Royal Institute of British Architects, Thursday, December 16, 1920.

Alexander ("Greek") Thomson, Architect.

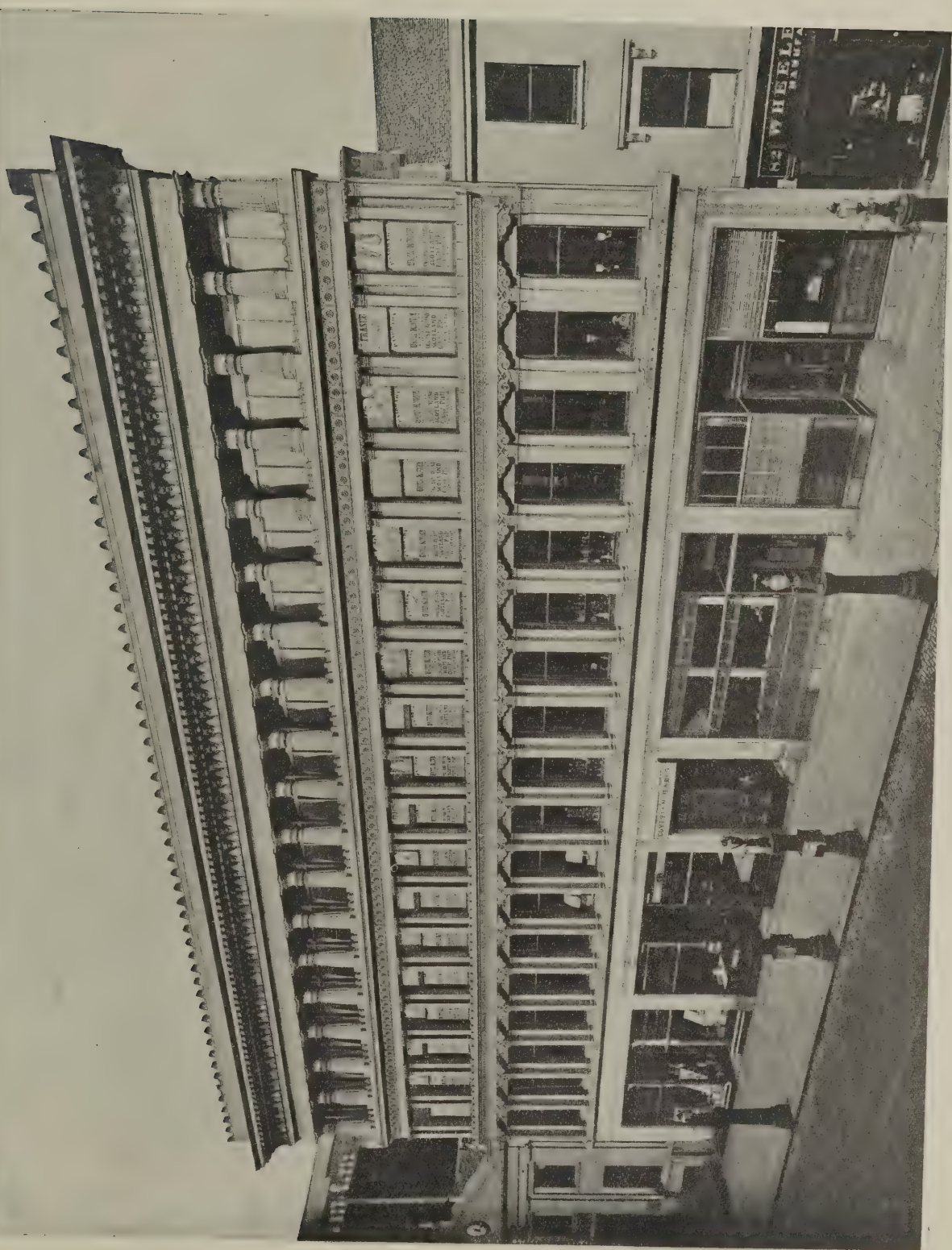


Photo: Annan, Glasgow.

The buildings of "Greek" Thomson, apart from their interest as experimental exercises with Neo-Classic and other antique elements, offer many suggestions for the treatment of modern elevations. The handling of the shop fronts in the above example is masterly. Note the transition from the ground-floor storey, with its widely-spaced piers, to the closely-knit façade superimposed.

dge. There should be roads con-
cted, leading by easy gradients to the
roach of the bridge. The buildings on
er of the approaches would go to the
height allowed by the Bulding Acts.
s, of course, would mean about three
a storeys from the level of Queen Vic-
t Street to the new level. On the
ge portion of the scheme, a length of
it 1,100 feet, the buildings could go to
ight of three storeys, with the result
a very fine architectural effect could
ttained. Of course, this would only
een from the river, from the windows
djacent buildings, or from an aero-
.

he completion of St. Paul's Bridge
of course, give an immense area of
erty on the south side ripe for develop-
and easy of access. The distance
St. Paul's Bridge to the end of Fen-
ch Street is one mile, to Moorgate
t Station half a mile. A new centre
ty activity on the south side would be
ed by a street of continuous build-
¾ mile in length. On the other hand,
ordinary open bridge would mean a
of nearly a quarter of a mile from
ess house to business house.
will be allowed by every one who has
lered the matter that there is a great
for more bridge communication be-
the north and the south of the river.
London Bridge to Chelsea Bridge,
ance of 3¾ miles, there are eight
s only; in Paris in the same dis-
and in the heart of the city, there
xteen bridges, some of them only
ards apart. London is gradually be-
g beautiful on the north side of the
but on the south side it is still little
than a collection of slums.

J. C. Proctor on Current Topics

he course of his recent presidential
s to the Leeds and West Yorkshire
ectural Society, Mr. J. C. Proctor,
A.R.I.B.A., said:
are all doing our best to evolve suit-
ypes of houses—better houses, we
han have been built in the past. It
e that when these various types of
now being evolved have been lived
ed, and finally approved, the need
services will be over, and that the
of multiplication will perforce be
on by the builders. On the other
he continuous thought and effort of
ts applied to the further improve-
this class of house may keep us in
ition of still having something to
ch will be worth the added cost of
s. On questions of lay-out there
ways be vast scope for us. I hope,
, that we may not get immersed in
se of architecture to the extent of
g that our art embraces much
n this.
ever we get the chance we must
ember to build our very best, and
ssarily our very cheapest. I think
ble that the present high cost of
will improve our art. Gone are
s when at small cost meaningless
t could disfigure the façades of
rant. The younger and the less
ced amongst us will pause before
g the limits of the bare necessi-
building, and the most skilful ex-
of our craft will more than ever
and reconsider each detail of un-
ornament.
nceivable that for similar reasons
we may approach once more to the simple and dignified methods that marked the later Georgian work. Future generations may thank these hard times for having given us a style which under less rigorous economic conditions we might have missed.

I have always thought that architecture as a possible profession was treated far too lightly. Perhaps because a boy shows little aptitude for business, and may have a certain cleverness with his pencil, it is thought that he will do well enough as an architect. And ultimately this lad, "clever with his pencil," is in a position to disfigure the streets of our towns and destroy the amenities of our countryside. If and when we get registration, such recruits to our ranks may be discouraged for their own ultimate good and to the great benefit of our profession.

An architect gave the following reply when asked recently what he regarded as the minimum essential requirements for ordinary general practice: "The minimum acquirements I regard as a full knowledge of all the subjects taught in the Architectural Association School of Architecture, with the addition of finance, and valuation of buildings and building materials, dynamics, and advanced statics, quantity surveying, and advanced and complete instruction in steel and reinforced concrete construction of buildings. Also the provision, in some extended form, for students to travel at least in France and Italy, and compulsory pupilage with a private practitioner."

I think that most of us will agree that all these acquirements are necessary to make the complete architect, yet we cannot but admit that the successful accomplishment of such an educational feat would eliminate all but the most brilliant. I feel, too, that even after the satisfactory conclusion of such a curriculum it does not follow that the student will have attained to that degree of culture which seems to me an almost essential part of our equipment.

I believe nearly all bad work is the result of attempting to go ahead of one's stock of knowledge. Once the design ceases to flow freely and naturally from the pencil, once we jump up to refer to books and the work of others, then we may be sure we are evolving work which will not satisfy us later. If at any time a feeling that you are an original genius creeps over you, I would recommend you to immerse yourself in an upper chamber, taking with you a volume of "The Orders of Architecture" and, shall we say, "Paley's Gothic Mouldings."

Mr. W. H. Thorp proposed a vote of thanks to the president for his address, and in the course of his remarks emphasised the need for the younger members of the profession to specialise. He also laid stress on the future of official architecture. The impossibility of proceeding with private work except of a very urgent character would make the profession more and more dependent on public work for employment.

Mr. T. Butler Wilson, in seconding the motion, spoke strongly of the possibilities of the present time for the young architect.

The President presented the following prizes for competition drawings:

Measured Drawings.—Three guineas each: R. G. Clarke, for drawings of Woodsome Hall, near Huddersfield; and H. Watson, for drawings of Swinsty Hall, Yorks. Second prize, one guinea, C. K. Hanson, for drawings of Lumb Hall, Drighlington.

Design.—Two Guineas: R. G. Clarke, for a design for a country railway station. One guinea each: H. Watson, design for an archæological museum; and F. W. H. Allinson, design for municipal buildings for a small town.

Sketching.—The response to this competition was very disappointing, only one drawing being submitted, an excellent water colour from "Bruges," by T. S. Berry, who was awarded the five guineas prize offered.

Our Special Issue

We take this opportunity of reminding readers that our annual Edition de Luxe will be published next week. In our own judgment it will equal—probably excel—all its forerunners (supremely successful as they have been) in architectural value and interest. That we have excellent reasons for our opinion will be apparent from the following bare summary of its leading features:

(1) The London County Council Housing Scheme at Dagenham (now called Becontree). [Illustrated by special permission of the County Council.] G. Topham Forrest, F.R.I.B.A., F.G.S., architect.

(2) The Design, Planning, and Construction of Bungalows. By Kenneth M. B. Cross, B.A., Cantab. (Profusely illustrated.)

(3) The Design, Planning, Construction, and Equipment of Cinematograph Theatres. By W. Stanley Blount. (Profusely illustrated.)

(4) New Methods of Construction for Houses, approved by the Ministry of Health. By a Housing Expert. (Fully illustrated.)

(5) Important Buildings of the Year, including:

Messrs. Dickins and Jones's new premises, Regent Street, London. (Sir Henry Tanner, C.B., I.S.O., F.R.I.B.A., Henry Tanner, F.R.I.B.A., and E. J. Tanner, A.R.I.B.A., Architects.)

Marylebone Town Hall, London. (T. Edwin Cooper, F.R.I.B.A., Architect.)

New Central Offices, Metropolitan Water Board, London. (H. Austen Hall, F.R.I.B.A., Architect.)

Faculty of Arts Building, Manchester University. (Thomas Worthington and Son, Architects.)

Pacific Steam Navigation Company's Offices, Liverpool. (Willink and Thicknesse, FF.R.I.B.A., Architects.)

New Memorial Chapel, Holy Trinity Church, Marylebone, London. (Mervyn E. Macartney, F.S.A., F.R.I.B.A., Architect.)

Berners House, Berners Street, London. (John Slater and Keith, Architects.)

(6) A Full List of London District Surveyors (with addresses and telephone numbers), carefully arranged for ready reference.

(7) A Summary of the Principal Architectural and Building Events of the Year.

The issue will be published at the special price of 2s. 6d. net; and, as it is certain to go out of print shortly after publication, readers are recommended to place their orders at once with the Publisher, Technical Journals, Ltd., 27 and 29, Tothill Street, Westminster, S.W.1.

The City Companies and Their Halls*

By Mr. H. W. WILLS, F.R.I.B.A.

GUILDS have existed in almost all civilised countries, and were once very numerous in Western Europe and in the cities and towns of England, but very few of the English provincial guilds exist to-day as active organisations, the Brethren of Trinity House of Newcastle-on-Tyne and the Merchant Adventurers of Newcastle and Bristol and a few others being exceptions to the rule; but previous to the passing of the Municipal Reform Act of 1838 the guilds of Newcastle and some other cities selected the municipal governing body, and it is only in the City of London that the old association between the Companies and municipality has been retained to the present day.

The broad distinction between the London companies and those of the provinces and foreign countries is that these latter bodies were almost always rigidly confined to the craft whose name they bore. The statutes of the Guilds of Aberdeen and other towns enforced those who wished to acquire their full privileges to prove their proficiency by the production of a "masterpiece," whereas the London companies admitted the sons of members of a company to the freedom without any craft qualification, the consequence being that they gradually assumed the characteristics of mercantile associations only slightly connected with specific crafts. This fact preserved their vitality when labour organisation altered, but at the same time it renders it more difficult to revive, as many have wished to do, their craft character. The present tendency is to become agencies for general educational and charitable work rather than specific organisations for the promotion of craft objects. But the Carpenters' Company, the greatest of those connected with building, carries out most useful craft educational work, and might in connection with the other building companies become an extremely useful element in the building world if suitably encouraged from without and within.

We have few trustworthy illustrations of the halls as they existed before the Great Fire, and most of those which then escaped have since been rebuilt. The Barbers' Hall was rebuilt thirty years before the Fire under the direction of Inigo Jones. Leathersellers' Hall, Carpenters' Hall, and Ironmongers' Hall, with others, which escaped, have since been rebuilt. The probable appearance of some of the earlier buildings may have been much like the hall of the Merchant Adventurers of York, which still remains, but in a large number of cases they were private houses which had been left to or bought by the companies.

In all there are thirty-five halls now existing in the City of London; some of the remaining companies never had halls, while in other cases their halls have been demolished or sold. The plans of many of the halls follow mediæval lines, being blocks of buildings grouped round a courtyard approached from the adjacent street through an archway. Comparatively few of them have frontages to the street which, when belonging to the companies, was frequently let out to obtain revenue.

The second hall of the Leathersellers' Company, which was only demolished at the close of the eighteenth century, formed a part of the Benedictine nunnery of St. Helen's acquired by the Company in 1543 after the dissolution of the religious houses, and was subsequently adapted and altered by the company. The demolition of this building was due to its state of decay, coupled with the fact that its position stood in the way of the development of the St. Helen's estate.

Barbers' Hall now consists of a very beautiful court-room with a lantern over an old staircase and a few smaller rooms; the quaint hooded doorway which previously fronted the street now forms a part of the inner doorway fronting the courtyard.

Although Merchant Taylors' Hall was destroyed, evidence has been obtained in recent years that it is rather a reconstruction of the former mediæval building than a new hall. This was made evident by the discovery of a fifteenth-century recess with fan tracery on the north side of the hall, which, with its slightly altered kitchen and a small vault under part of the building, belong to the Gothic era. Merchant Taylors' Hall contains some fine rooms of the Stuart era, but parts of the building have suffered through injudicious addition and restorations.

Mercers' Hall was rebuilt after the fire from designs by Jarman, the city surveyor of the work of that date. The hall and chapel which replaced the Church of St. Thomas of Acon, in which the mercers used to worship, remain, together with a colonnaded hall below. The court-room is somewhat later in date, and the remainder of the buildings are modern.

Brewers' Hall is the most complete of the halls of post-Fire date, and is practically untouched. The architect employed was Mr. Whiteing, but the builder, Captain Caine, is the hero of the story. His tender for the building was £3,523, as against £3,443 submitted by a Mr. Ball. Both were persuaded to offer to carry out the work for £3,300, and were then asked if they would give £3,000 for old materials, on which they asked leave to withdraw their tenders. Captain Caine was ultimately selected, and carried out the work so satisfactorily that he was made a brother of the company.

The same Captain Caine was asked to submit a model for the rebuilding of Tallow Chandlers' Hall, and, the surveyor to the company dying, was elected to fill the office. The buildings facing Dowgate Hill were carried out directly by master tradesmen, and the company dealt with a plasterer for the ceiling of the hall, though Captain Caine was allowed to check the accounts.

The Pewterers rebuilt their hall after difficulties. To obtain money they gave any of their members who would pay a small sum the right to put up their escutcheons in the hall, which for the present forms part of a warehouse. The very interesting ceiling over the adjoining Masters' parlour was carried out directly by the plasterer, who submitted a model of it to the Court.

Skinners' Hall is one of the most beautiful and interesting of its period, and contains many fine rooms besides the which is decorated with Brangwyn's paintings representing the co between the Skinners and the Mer Taylors.

The Haberdashers' Hall is attribu Wren, but has been considerably a and modernised. Its finest feature court room, with its elaborate plaste ing, on which are displayed the ar the company.

The Vintners' Hall contains one finest rooms in any of the halls, forms the company's court room marked by great beauty of detail.

Girdlers' Hall, sometimes attribu Wren without sufficient evidence, is interesting, the Hall containing a ve screen, and the court room and sta being good examples of the work period.

Painter Stainers', Stationers', A caries', Innholders', and Coachm Halls, all belong, approximately, same date, and both the Stationer Apothecaries' Halls contain very rooms, and Apothecaries' Hall a picturesque courtyard. Innholder has been partially reconstructed, b great skill, so that its characterist tures have been carefully pre Coachmakers' Hall was formerly th of the Scriveners' Company, and constructed in recent years, the old work being preserved and Painter Stainers' Hall is an exce picturesque and pleasing building halls mentioned are the work of a when the influence of the master man was still strong and when the of detail was left largely in his hand following halls are the direct w architects at a time when the influ the craftsman had in a great meas out.

Ironmongers' Hall was rebuilt i possibly on old lines, as its pla very noticeable irregularities. T trance hall is a most picturesque and the livery hall over, which decorated a hundred years later, i interesting and by no means uns example of an attempt in an Eliz manner. This hall was badly d during one of the German air ra has since been demolished, the site been sold for the erection of offices.

Salters' Hall was built in 18 designs by Henry Carr. It is cl ised by refinement of detail and and symmetric arrangement, and have the conception of a city h balanced architectural compositio

Fishmongers' Hall was built in architect being Henry Roberts.

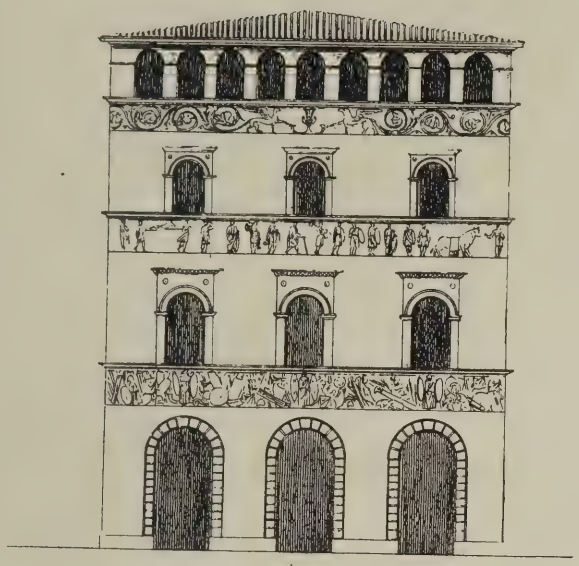
Goldsmiths' Hall was built from of Philip Hardwick, R.A., and i fine and dignified building, and pleted in 1835.

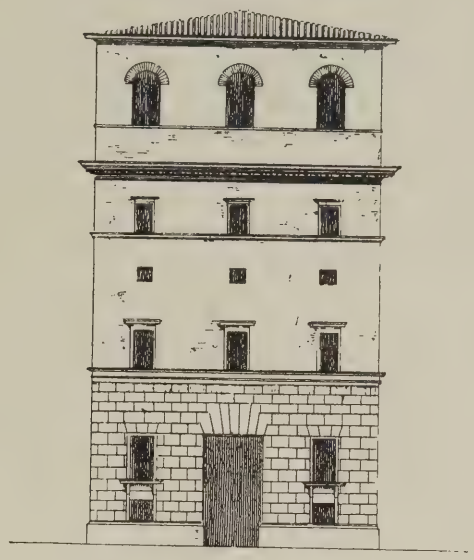
Armourers' and Braziers' Hall in 1839, from designs of Josep Good. The very pleasing little h Wax Chandlers in Gresham St built from the designs of Charle in 1852.

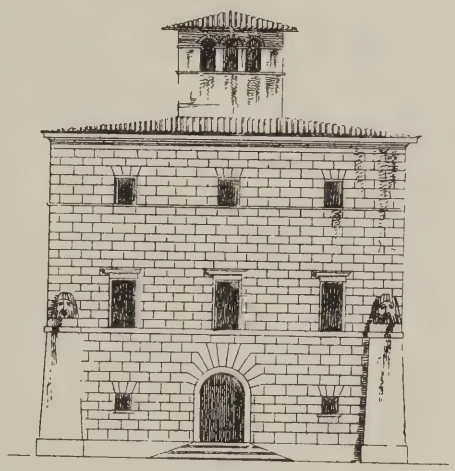
Clothworkers' Hall was rebu 1850 from designs by Robert A plan and arrangement being ar

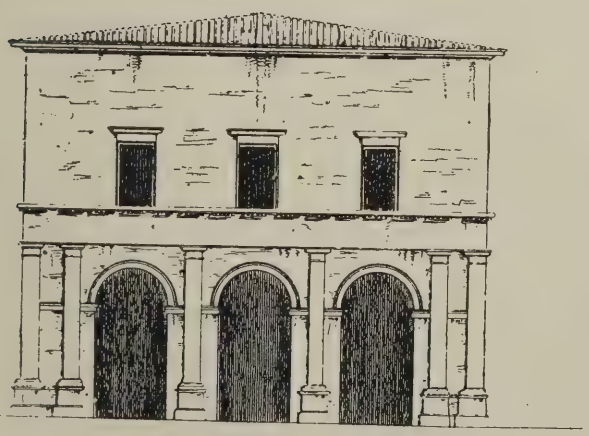
* Extracts from a paper read before the Society of Architects.

Italian Villas. 4.—Selected Examples from Scheult









These examples of Italian villas, reproduced from drawings by Scheult, though interesting enough as complete compositions, are chiefly valuable for the suggestions they offer in relation to modern work. Parts of the above designs could be appropriately adapted to such small structures as loggias, garden pavilions and, in view of the activities of most municipal corporations, even to tramway shelters.

ified, while the hall is well propor-
ed and effective in character.
he final group of halls to be noticed
ides those built in the 'seventies and
equently, and among them is the
ers', which, though the work of an
rtunate epoch, has an inner courtyard
ry pleasing proportions and consider-
dignity, and a spacious, well-propor-
d livery hall.
rpenters' Hall was rebuilt at about
same time, and has qualities of dignity. The Cutlers' Hall is a pleasing little building designed in the Tudor manner, while the Grocers' Hall contains a good staircase and court-room.

Curriers' Hall was designed by Messrs. J. and J. Belcher in a Gothic manner, and the Cordwainers' Hall was rebuilt from designs by Chatfeild Clarke in 1909. It has been sold during the last few months to a business firm.

The City halls are not, like the Italian palaces, the work of princes and nobles able to spend enormous sums on building and aided by the greatest artists of a notable epoch, but the homes of communities which for the most part have endured through times of great stress and difficulty, and which have only comparatively recently reached a period of financial equilibrium, but it will be readily admitted that they are, with the churches, the greatest features of interest in the City of London, which, we must hope, will be preserved for future generations.

"The Art of E. A. Rickards"

ssrs. Technical Journals, Ltd., have gratified to receive a large number ppreciatory letters on "The Art A. Rickards," the recently issued graph on the life and work of that ntly gifted artist; and it is thought hese valuable tributes from his con-raries, who speak with an intimate ledge of the man and his work, l be placed permanently on record. ection of the letters is accordingly below, and others will be published later issue. A special notice of the by Professor C. H. Reilly, will early in the New Year.

A Gifted Artist

fine book on the art of the late Rickards should be most widely , for nothing could show more that architects should be artists as experts in design and construction. t, one may say that no man can be t architect or designer who is not ily a fine artist. Of course, it does llow that because a man is a good e must be an able architect also, or, t, an architect at all. He must be extraordinarily gifted and le to be both, and the late E. A. ds was of that type. A few names dom from amongst the great old s, such as Giotto, Michael Angelo, hio, Sansovino, Holbein, and will illustrate our meaning. h not of their calibre, the late E. A. ds was a most gifted and many-rtist, and his premature death is a oss to this age, whose artistic pro-ness has so severely suffered by the of the war.

P. AND D. COLNAGHI AND CO.

iranesian Freedom"

ate E. A. Rickards was exceptional he possessed the imaginative quali- the creative artist in a marked devoid of any approach to y. It is well that the work of such and original minds should be re-or the inspiration of those of lesser gifts, and particularly for the of the future. For this reason is to be welcomed, and its circu-thing to be encouraged. It shows wide range of Rickards's art en in draughtsmanship—the nd almost Piranesian freedom of Though architecture is essenti-practical art, its more purely qualities form in the long run effective claim to the interest of and exercise upon it—even if un-sly—the most powerful of influences. One hopes in time for more general recognition of a truth with which the subject of this excellent monograph would certainly sympathise.

FREDK. R. HIORNS.

His Draughtsmanship

The book is a worthy record of an architect whose work and personality were more than worth recording. I knew him pretty well, but had no idea that his extraordinary power of draughtsmanship included water-colours and lithography of such merit as those which you illustrate. I am sure all his friends will like to have this record of his work when they hear of the book.

MAURICE E. WEBB.

His "Creative Ability"

As a personal friend and admirer of the late E. A. Rickards, the interest and pleasure which I feel on perusing his book must naturally be tinged with melancholy at the thought of his untimely death; it occurred just when it seemed that post-war conditions were about to afford him the opportunity of producing some more of the characteristic and original work of which he had already given us such brilliant examples. In my opinion the book now published gives a very complete idea of the creative ability, originality, and technical skill of this gifted artist, and I look upon it as a very valuable addition to my library.

ARTHUR J. DAVIS.

"Rickards Atmosphere"

The general interest of this book should ensure it a place in all private and public libraries. From the time when I heard it was in course of preparation until I received my copy I had eagerly awaited its arrival. You had a most fascinating subject to deal with, and you have handled it with care and true sympathy. There is a real Rickards "atmosphere" about the book; more than this could not be hoped for.

The pen picture of the late E. A. Rickards as sketched by Arnold Bennett, Amor Fenn, and by H. V. Lanchester, who collaborated with him in his architectural work, is all-embracing, accurate, and faithful to a degree. Nothing of interest appears to have been omitted, yet it is free from hero-worship, as Rickards would have desired.

It was my pleasure on several occasions to discuss matters architectural with E. A. Rickards, and the impression he left with me is just such as the pen picture contained in your book.

You have chosen widely and wisely from his works for illustration, being at pains to give to the world a few of the best examples from each branch of art which from time to time attracted his attention. The sketches for monuments are of surpassing beauty in design and excellence of composition. Yet it could not be otherwise, for was not Rickards's work essentially monumental in character? His caricatures are delightful. Whether working with pencil, pen, or brush, Rickards was equally in his element, and the student as well as the practitioner will find food for thought and admiration and —I trust—emulation in the vigorous, refined, and courageous drawings. By the death of E. A. Rickards when nearing the summit of his career, art in its fullest sense has suffered a great loss.

HERBERT A. WELCH.

"Rickards at his Best"

I look upon the book as a very valuable addition to my library. The illustrations have been well chosen and splendidly reproduced, and they show him at his very best. I sincerely hope the volume will meet with the success that it undoubtedly deserves—not only amongst architects, but all others interested in art.

PERCY B. TUBBS.

For the General Public

I regard the publication of the Rickards work, so admirably illustrated, as invaluable to our profession generally. The book is especially welcome at this period of reconstruction, putting before the public in a suitable and attractive form the work of a great modern artist whose influence will have a strong bearing on the trend of modern architecture. It should arouse in the general public that enthusiasm for architecture, painting, and sculpture which inspired Rickards throughout his life.

ERNEST G. THEAKSTON.

"His Work Will Live"

In my opinion the book is one that should have its place in every architect's library. I knew E. A. Rickards personally. He did some very fine work, and his influence upon architecture was great. I feel sure that this publication will be much valued by those who knew the man, and although Rickards is, unfortunately, not with us now, his life's work will live for many a generation.

CHARLES T. RUTHEN.

Correspondence

Architecture and the Public

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—To me there is an obvious connection between "The Passing of Morley's Hotel," page 619, and "Architecture and the Public," on page 629, of the issue of THE ARCHITECTS' JOURNAL for December 8. The question how to ensure the preservation of distinctive aspects of our national life, as represented in architecture, is an extremely difficult one, and particularly so from the standpoint of interference with perfectly legitimate rights of private ownership.

As a result, our protests against the destruction of valuable links with the past afforded by interesting and frequently beautiful buildings are usually quite in vain. This will continue to be so, one fears, until private owners and all others concerned—as part of the great mass of the public—are so really appreciative of the historical and æsthetic value of such things as consciously to desire to preserve them whenever such a course is at all possible, and imperative necessity does not forbid.

That, surely, is why an enlightened public opinion on æsthetic and allied questions is required if the amenities of civic life are to be maintained and fostered in a general and really intelligent way—and such incidents, for example, as the projected sweeping away of a number of fine churches (by Wren and his successors) in the City of London avoided.

THE ARCHITECTS' JOURNAL is doing much to stimulate appreciation of this aspect of life. I feel sure, however, that none would be more pleased than those who guide its policy if a more extended collective effort on the part of our representative art authorities could be bent towards the education of the public in matters of taste —the one branch of education for which, broadly speaking, no real provision is made.

FREDK. R. HIORNS.

Architectural Opportunities in the Bahamas

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—As there may be many architects, or men connected with the building trade, who are not entirely dependent upon their earnings and who might wish to make a start abroad, I should like to inform you that, with one exception, there is at present no architect or anyone with engineering experience in Nassau, N.P., Bahamas, most of the buildings being produced by Italian working builders from very rough plans, the client purchasing his own materials.

The Government here is shortly contemplating the erection of new buildings and improvements; there is a land boom, and a great many sites have been sold for the purpose of erecting bungalows and residences of all kinds. I therefore wish to draw the attention of your readers to the fact that there is a splendid opportunity here for a professional man who is in a position to live at first without depending upon his fees to maintain him.

The man wanted here should have more than general knowledge, so as to be able to advise and carry out stone, reinforced concrete and wood buildings, windmill towers, tank towers, laying of water mains, electric light plant, pumps, dock walls and water frontages and modern sanitation, also the drainage of low swampy land, in addition to taking out quantities and being able to estimate. There is plenty of labour here, but want of training makes it necessary for an architect to watch the job much more closely than would be the case at home. We suffer greatly for the want of English materials and articles of all kinds, for which there would be a big demand, owing to the fact that the American exchange would be in favour of the English manufacturers. At present this market is left to the Americans, who have a monopoly. The new electric light plant costing over £100,000, cold storage, steam tugs, etc., and, in fact, all the orders have gone to America, and the large hotels here are all owned by American capitalists. Our only hope is that the Canadian Government Steamship Line, shortly to commence running, will be a means of English manufacturers opening up trade relations with this colony. The climate here is one of the best in the world, and development is all that is required.

A professional man once established here would have no competition, and in fact would, in all probability, secure the American clients. A letter addressed to the Secretary of the Development Board, Nassau, New Providence, Bahamas, would receive a prompt reply in answer to any questions.

BLISS.

Architectural Appointments Abroad

To the Editors of THE ARCHITECTS' JOURNAL.

SIRS,—May I again trespass on your columns to warn those members of the profession who contemplate taking up positions anywhere outside the United Kingdom? It does not follow that every position outside the United Kingdom is no good—many of them, of course, are very valuable—but it is most vital that any one contemplating taking such a position should obtain the very best advice possible beforehand. My union has collected from members and others a file of information—though much more would be welcome—and will give all the advice possible; and I have no doubt that the professional institutes will also be only too willing to advise their members.

Recently I have had complaints from Singapore, India, and from other places, the names of which if revealed might lead to victimisation owing to the limited size of the professional staffs engaged there.

There are one or two points worth making public:

(1) The written agreement of any Government, public body, firm or individual requires very careful consideration before being signed.

(2) It seems doubtful whether contracts made in this country are legally binding abroad, even in some of our own little colonies.

(3) The shilling in Britain, the rupee in India, and the eastern dollar seem to have much the same purchasing power; rate of exchange should never be taken int sideration when the salary is not sta sterling.

(4) A wife should never go away wi husband at first, but should follow finds conditions satisfactory.

(5) Most salaries abroad will be fo be suitable only for bachelors.

(6) Future promotion should not b looked. A man in the jungle is not u on the spot for the next prefermen offers, and it is usually filled from ho

(7) There is no place for the poor man, who only maintains his footi real or assumed social superiority.

(8) Duration of life in an uns climate.

I have just had a conversation w ex-officer who went out East with hi At the end of five months he returne the loss of nearly £400 capital a wife's health had been ruined. It have been more profitable for him in this country without a job than there on his salary, which looked a £ s. d. It is usually only traders tha money; every penny earned by th fessional man is usually every penny

CHAS. McLACH

Hon. General Secretary, Architec Surveyors' Assistants' Professional 33, Tothill Street, London, S.W.1.

Wages and the Ship Joiners

To the Editors of THE ARCHITE JOURNAL.

SIRS,—With reference to the e article in the issue of THE ARCH JOURNAL of the 8th inst., headed " and the Shipyard Joiners," exceptio be taken to the statement made t " Shipbuilders made a rod for th backs when, in spite of all prote systematically enticed carpente joiners away from the building tr the offer of preposterously high The facts are these:

It was found in the early part of that the joiners were leaving the sh and ship-repairing establishments North-East Coast because the w the building trade were 3d. per hou that paid in the shipyards. To r difficulty, and because the joine considered an interchangeable tra Shipbuilding Employers' Federati compelled, in order to keep their grant the 12s. per week, bring wages up to that paid in the trade, and it is because this 12s. being withdrawn that the men ar strike.

G. T. V

Chairman, R.T. Dry Dock Pro and Ship Repairers' Association.

Mr. John B. Hec

To the Editors of THE ARCHI JOURNAL.

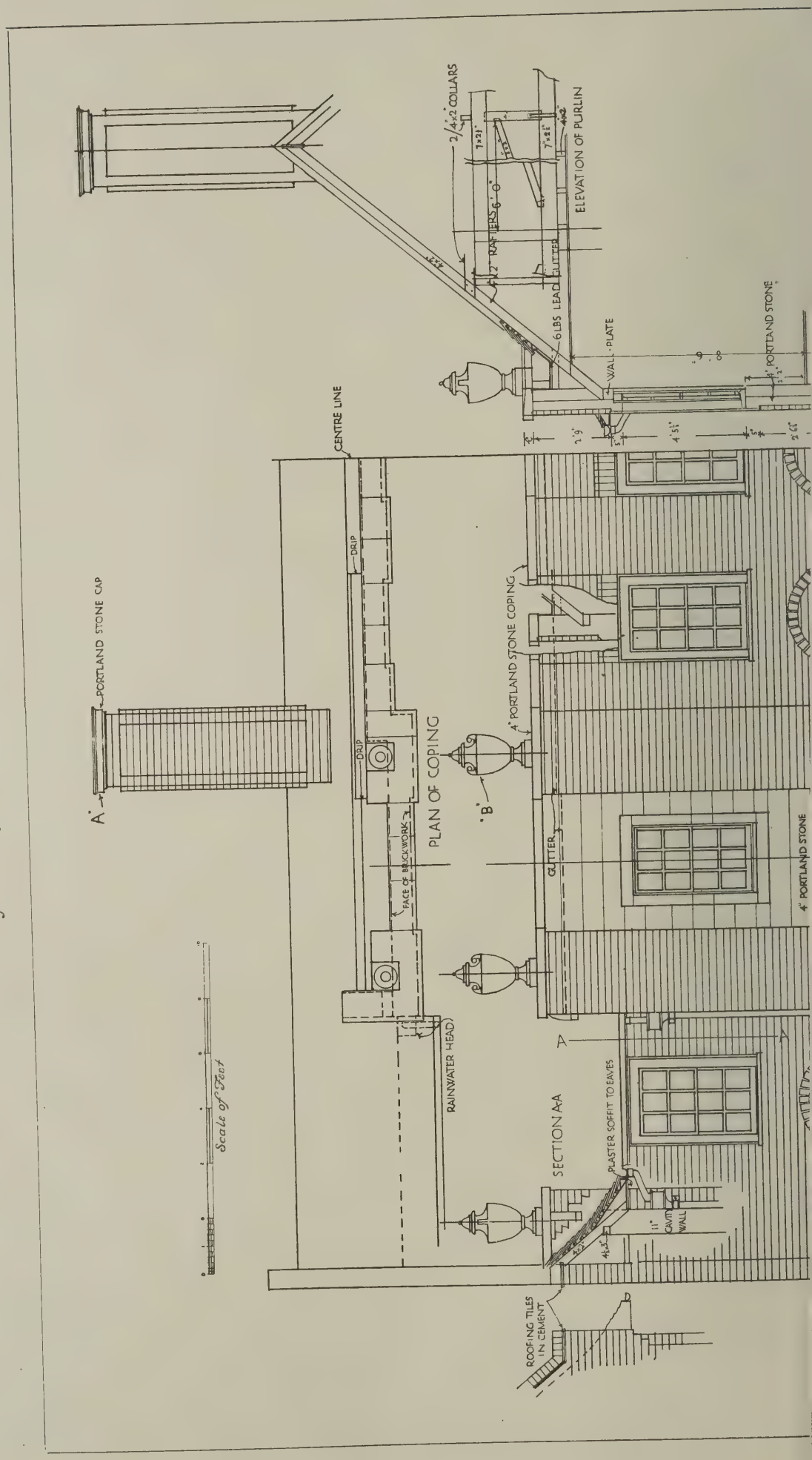
SIRS,—The "Journal" of the for the current month records my amongst others. Through the m your columns I desire to assure r friends, especially those in the my continued good health.

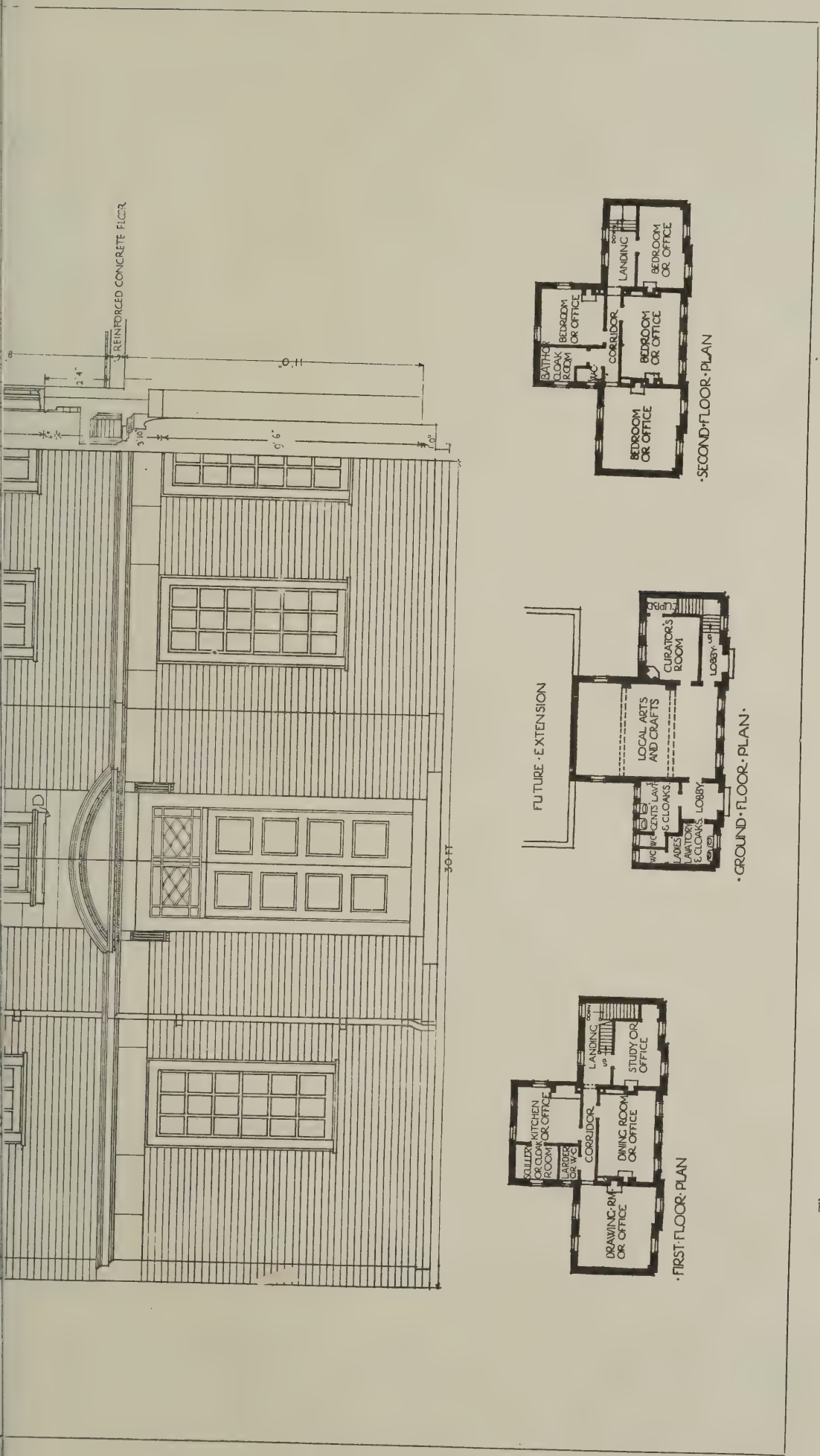
JOHN B. HECTOR,

Vice-chairman, Central Execu Committee, A.S.A.P.U.

Architects' Working Drawings. 23.—The Museum, Letchworth: Detail of Main Façade

Barry Parker, F.R.I.B.A., M.T.P.I., Architect





The name of Mr. Barry Parker is associated with much delightful work of the Garden City type. In the present instance he shows the adaptation of the domestic manner to a small museum building.

Pantomime in Bedford Square

There was a delightful unexpectedness bout the "Prodigious and Preposterous 'roduction of Aladdin" by the students of ne Architectural Association School, 'hich gladdened the hearts of crowded udiences during its brief run of two ights—those of December 15 and 16.

Old friends appeared in entirely unfaiiliar guises, well-known melodies were ccompanied by words that gave one a elicious thrill of anxiety as to what was oming next, and an exquisite inapproiateness pervaded a pleasant atmosphere light-hearted jollity.

The plot was simple, and has, we fancy, en met before, though never surely in e annals of pantomime has Aladdin bbed a T-square to summon his supertural attendant, nor has the winning of architectural competition brought with the hand of a princess. We were for me long time frankly puzzled as to the of these same princesses—the simper; smiles of the beautiful Cymatia, and coy flirtatiousness of the gentle Pudlo, med to proclaim their femininity until a tain sturdiness of nether limb and a picion of uneasiness in the nice con:t of a clinging skirt betrayed them.

write a libretto, design the setting, duce the play, dress the players, act, ice, sing, and introduce a lively admixe of low comedy is no small achieveit for a body of students, and all conned in the production are heartily to congratulated on the result of their rts.

he songs displayed a pretty wit, and ough outsiders naturally missed the flavour of the topical allusions, one ered that lecturers and other promit members of the Association were reing their due meed of attention. Set- and costumes, which started in the y Egyptian style, and ended in someg suggesting the latest revue, were a to behold, and acting honours were so ly divided that comparisons become e than ever odious. Special mention, ever, must be given to King Triglyph, e rendering of "Bye-Bye" would not put Berry to shame, and to the engaging performance of a sentimental ditty by the Chamberlain and Princess Pudlo. Extraordinarily clever was the dancing of M. Ivan Jazzinskitwitz, and the knockabout humour of Tread and Riser brought down the house as well as themselves on several occasions.

The excellent accompanist contributed largely to the success of the performance, and the joyful noise with which the evening ended afforded convincing proof that the Architectural Association School is in no danger of perishing through any lack of vitality among its members.

E. N. BLAND.

Enquiries Answered

"Walo" and "Dudo" Construction.

A correspondent asks for information concerning the above methods of construction. We shall be glad to hear from any reader who has knowledge of them.

Architects' Charges for Housing Schemes.

"J. W." writes: "Can you inform me where to obtain a copy of the architects' scale of charges approved by the Ministry of Health for housing schemes?"

—From the R.I.B.A., 9, Conduit Street, London, or from H.M. Stationery Office, Kingsway, London, W.C.

Safe Live Load on Bridge.

"Tunnel" writes: "What method must be adopted to find the maximum safe *live* load permissible over the bridge shown on the accompanying tracing? The bridge is constructed of limestone, and is in good condition. The abutments are bedded on sound rock foundations."

—This question requires graphic solution, which is shown in Fig. 1 for a distributed load over the bridge amounting to $1\frac{1}{2}$ cwt. per square foot, which is sufficient to allow for the maximum general loading. The resulting stress is 5.1 tons per square foot compression at the soffit of arch ring and 2.55 tons per square foot at the extrades of arch. This is well within the capacity of the material, assuming that the arch ring is of uniform construction throughout the width of the bridge. The maximum stress will occur when a heavy traction engine or 15-ton steam-roller crosses the bridge, and an axle load of, say, 10 tons is passing over one of the haunches, the remainder of the roadway being free from an external load. Allowing 20 per cent. extra over dead weight for live load the resulting stress is 12.7 tons per square foot compression, and 5.2 tons per square foot tension. This is, in the writer's opinion, the maximum rolling load that the bridge is capable of taking when the roadway is in good condition. If it is not, then a 10-ton steam-roller is the maximum load. The method of constructing the diagrams will be found fully explained in "Theory and Practice in Designing" (Constable, 7s. 6d. net).

HENRY ADAMS.

Ancient Lights.

"C. B. W." writes: "How long has a light to exist to become an ancient light? The period used to be nineteen years and one day, but I understand that a recent ruling has reduced the time to twelve years. Could you confirm this and refer me to the case in which the ruling was given?"

—The length of time that a light has to exist in order to become an ancient light is undisputed enjoyment of the easement for a period of nineteen years and one day. This period holds good, and has not been upset by any legal decision up to date. Twelve years' undisputed possession gives the possessor prima facie evidence of possession of a property to which there may be a defective title, but a period of forty years has to elapse before a definite title can be acquired and registered.

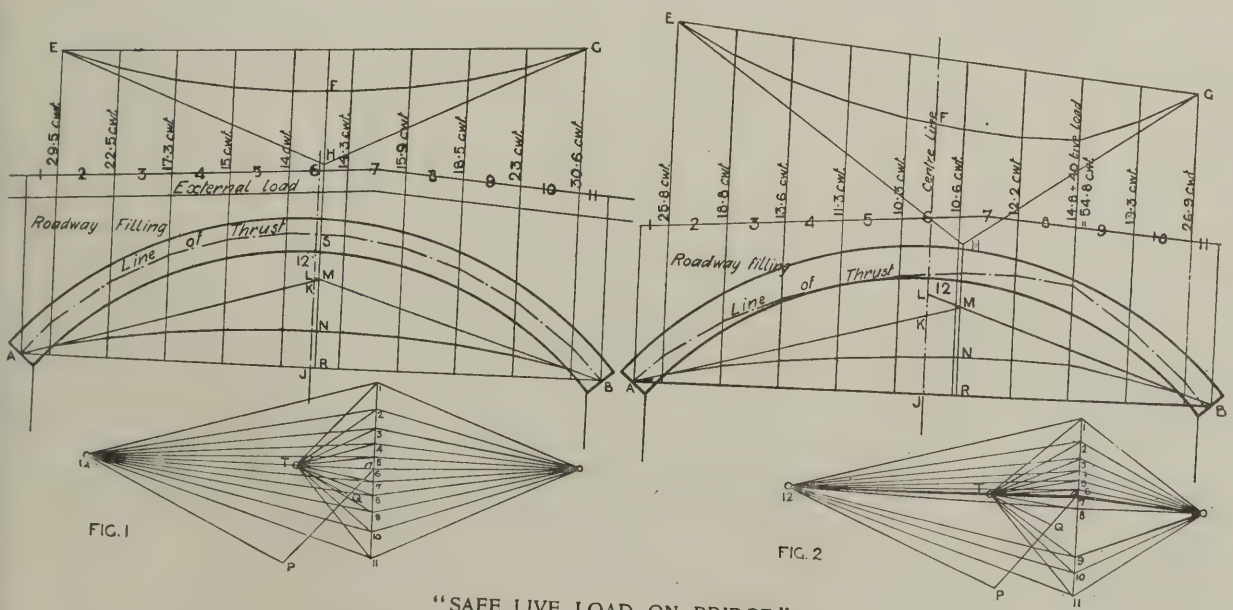
W. S. B.

Cost of School Buildings.

"M. R. W." writes: "What is the price per foot cube at the present time of school work substantially built of brick, with concrete floors, and having a ground and a first floor?"

—A price per foot cube for buildings of this description is a difficult proposition, there being no definite data to go upon. Basing it upon the average price before the war, a two-storey central hall type of school, with ordinary brick wall and concrete floor, construction should work out at about 2s. 3d. per foot cube for the building alone. If the cost of furnishing and outbuilding, with playing-grounds and architects' fees are included, the price per foot cube would be about 4s. 6d. to 5s.

W. S. B.



"SAFE LIVE LOAD ON BRIDGE."

Construction. 14.—Building in Pisé de Terr

INVESTIGATIONS have been carried out by the Ministry of Agriculture and Fisheries to determine the most satisfactory method in which building in pisé de terre may be revived. The Ministry took up the matter at the point reached in the early autumn of last year, when Mr. J. St. Loe Strachey completed at Merrow, Guildford, a pisé bungalow, the erection of which was aided by the Ministry and supervised by Mr. Clough Williams-Ellis, at that time one of their superintending architects.

The further researches instituted were directed to discovering the requisite constituents and characteristics of a soil which would ensure stable construction, a suitable and easily handled form of shuttering, the best form of rammer to consolidate soil, the most satisfactory material for and method of rendering the exterior face of the wall, the possibility or otherwise of building during the winter, and the relative cost compared with that of building in brick.

The conclusions derived from these investigations, set out below, should not be regarded as final or incapable of modification, for research can still be pursued in many directions. The data already obtained, however, are sufficiently definite for pisé construction to be embarked upon with satisfactory results.

It is a mistake to suppose that all earths are suitable for pisé construction. Preliminary tests should always be undertaken to determine the suitability of a soil before use, and samples should be tested to ascertain its mechanical strength. The essential qualities of a soil for pisé work may be defined as a firm coherence of the constituent particles when rammed and dried, combined with an absence of excessive shrinkage in the process of drying. A pure clay would satisfy the former condition, and pure sand or gravel the latter; yet neither by itself could possibly be used for pisé construction.

The earths ordinarily met with are complex mixtures in which clay and sand are by no means the only constituents; and many of them possess the essential qualities owing to the presence of other ingredients in combination. Calcium carbonate occurring in chalk, marl, or disintegrated limestone, helps to reduce shrinkage, while detracting little from the cementitious properties of the other ingredients present. Organic components are bad, being particularly liable to shrinking in drying, and they weaken coherence in the earth as a whole. Top or vegetable soils are, therefore, generally unsuitable.

An all-important point is the water present in the earth at the time of actual use. This factor is so dependent on the composition and character of the soil to be used that a statement of a percentage can only be taken as a very rough guide. In general it will be found that the water present should be between 7 per cent. and 14 per cent. of the weight of the dried earth. In illustration of this factor of water content it may be stated that a clay-gravel-sand mixture gave the best results with as much as 15 per cent. of water, while a chalk loam mixture, with 13 per cent. of water, shrank excessively on drying, but worked satisfactorily with 7 per cent. The tendency of inexperience is to work with too damp a soil. As long as the rammer will consolidate without pulverising the material it may be assumed to be wet enough. Should it "pug" under the rammer the earth is certainly too wet, and will shrink and crack when drying out. A good average sample of the earth should be taken for testing, sufficient to make a number of test blocks; and each block should be made up at a different stage of the earth's drying so that the most satisfactory water content may be determined by the tests.

The percentage and moisture is most easily found by weighing the samples as made, and again when they are quite dry; the difference in weight taken, as a percentage of the dry weight, giving the figure required. Exact measurements of the length of the sample should also be made, both at the time of consolidation and when dry. The percentage of shrinkage should in no case exceed 2½ per cent., and can generally be kept under 2 per cent. when the water content is low.

The shuttering required should be capable of resisting the considerable thrust of the ramming, ensuring a true face to the wall, be easily and speedily placed in position, and moved as the work proceeds without support from the ground, and be economical in cost. The Ministry's technical officers have devised a set of shuttering, of which a drawing is given on the opposite page. This appears to meet the above requirements, has proved satisfactory in use, and is a pattern which has been adopted by many private owners, who are beginning to build in pisé de terre. The filling in of innumerable putlog holes is, however, both costly and laborious. The Ministry is now experimenting with a tapered metal putlog which could easily be knocked out, and the hole then filled with cement and sand by means of a syringe. In the first pisé cottage built at Amesb there were some 250 putlog holes, cost of filling each being proba 1s. 6d. to 2s.

Iron, with a smooth surface, is a m satisfactory material for a rammer t wood. Two forms of rammer, each wei ing about 7 lb., are desirable, one flat, other shaped like a heart, tapering thickness to the bottom, which should h a blunt edge.

Various materials for external rende have been tried on pieces of experime wall at Amesbury. In addition to h minous coatings, the following exte finishings have been tried:

A. Sand and ground lime 1 an brushed on.

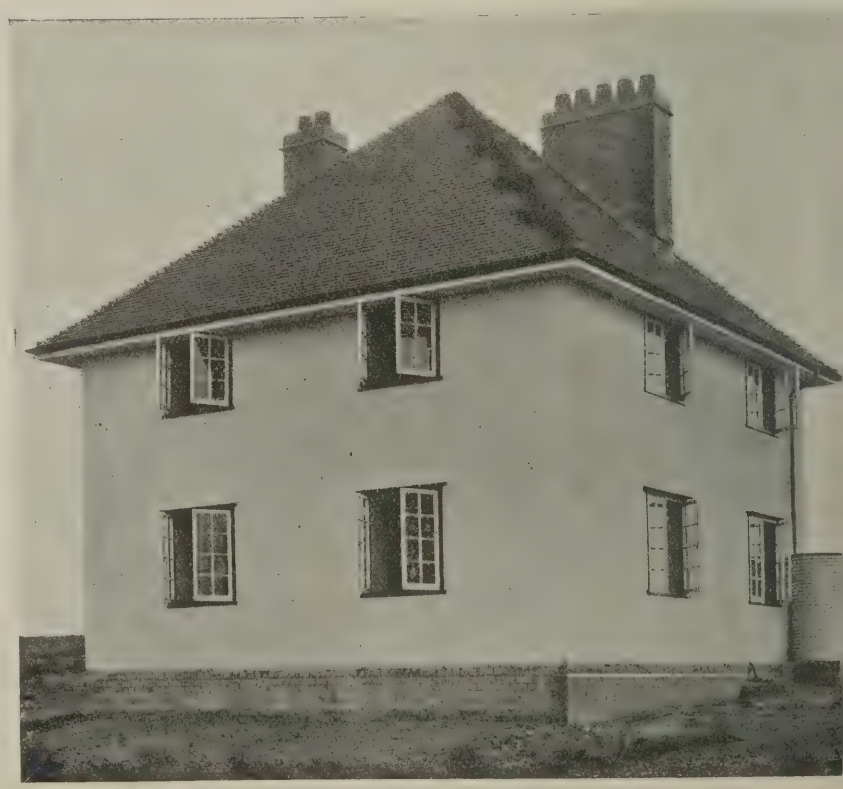
B. Sand and chalk lime 1 and 1 brus on.

C. Sand and cement 1 and 1 brushed

The colour and appearance of A peared quite satisfactory and will adopted for external work. C is satisfactory and very hard, but the co is Portland cement colour, and would bably need a wash to give a satisfa appearance.

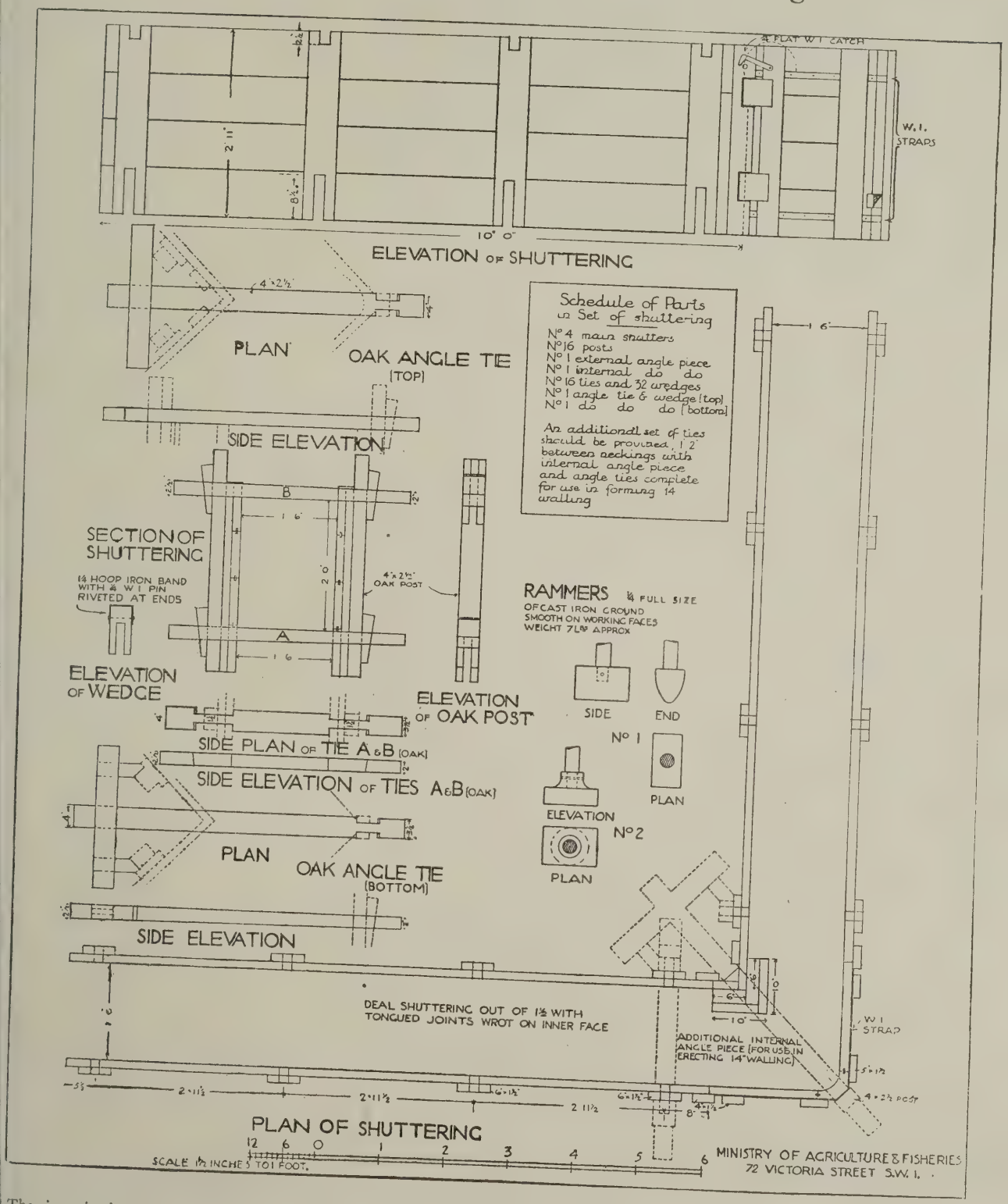
The first pisé cottage erected at A bury is proof that, given sufficient pr tion from severe weather, building in can be carried on during the w months. The expense of providing sc and tarpaulins, and the labour charge volved in moving them on and off the as demanded by weather conditions, to prove, however, that it is not s economy to undertake pisé constru during the winter season.

The cost of the first pisé single storey cottage at Amesbury, complete all finishings and fittings, does not an appreciable saving over a similar co



PISÉ COTTAGE AT MINISTRY OF AGRICULTURE AND FISHERIES' AMESBU FARM SETTLEMENT, WILTS.

Details of Shuttering for Pisé Walling.



The investigations carried out by the Ministry of Agriculture and Fisheries in connection with pisé-de-terre as a means of cottage building are described in the accompanying article. The system of shuttering shown in the above illustration (devised by technical officers of the Ministry) has proved satisfactory in use.

brickwork. It must be remembered, ever, that this cottage was the basis of the experimental work; that the brick ndations were carried to an unneces- height, as is now recognised; that e were difficulties and delays in arriv- at a satisfactory form of shuttering; further delay and expense were in- ed by building in the winter; and that workmen employed had to gain their tical experience on the work.

Vork on the other two-storey cottages eeded smoothly after the preliminary culties had been surmounted, and the ful costings, kept in regard to all the ding work, show that pisé walls, using nary building labour, can be con- cted at a cost of 15s. per yard super., gainst 25s. per yard super. for 11-in. w brick walls. These figures are cal- ted on pisé walls 18 in. thick on lower s, and 14 in. above (average 16 in.), labour at 1s. 3d. per hour, producing cube of finished wall per hour, as nst brick-work costing £56 13s. 4d. per The cost of scaffolding is not taken account in these figures, but would be with pisé than brick.

e nature of the foundations is a con- able factor in the ultimate cost of pisé ling. It is considered that the pisé may be begun at 9 in. to 1 ft. above nd level; below this level brick, stone, oncrete must be employed. A good p-proof course is essential.

is essential that the design should be d to the construction—square or g plans without breaks being most ble. Gables and high walls should be ed, and bedrooms formed as much as ble in the roof.

forming lintels 4 in. by 2 in. timbers have been placed side by side through the thickness of the wall, except where the door or window head is to come. In the position to be occupied by this head a temporary support of the same length as the lintel, but rather less in depth, is put and strutted up from the sill. A simple method of constructing sills is either concrete 3 in. thick through the thickness of the wall, or brick with the oak sill projecting. For heads, tiles bedded direct on the wood head would appear to be the best method. An alternative would be to show the wood lintel externally with tiles above. The pisé work is continued above the lintel and support, and subsequently the strutting to the support is removed and the support taken out, leaving a cavity, which allows the frame to be put in and dropped down so that the groove of the oak sill of a window may engage with the water bar embedded in the concrete sill, or the foot of a door frame with dowels in the step. The cavity over the head is then filled in with pieces of tile in cement and two courses of projecting tiles are put to give a drop.

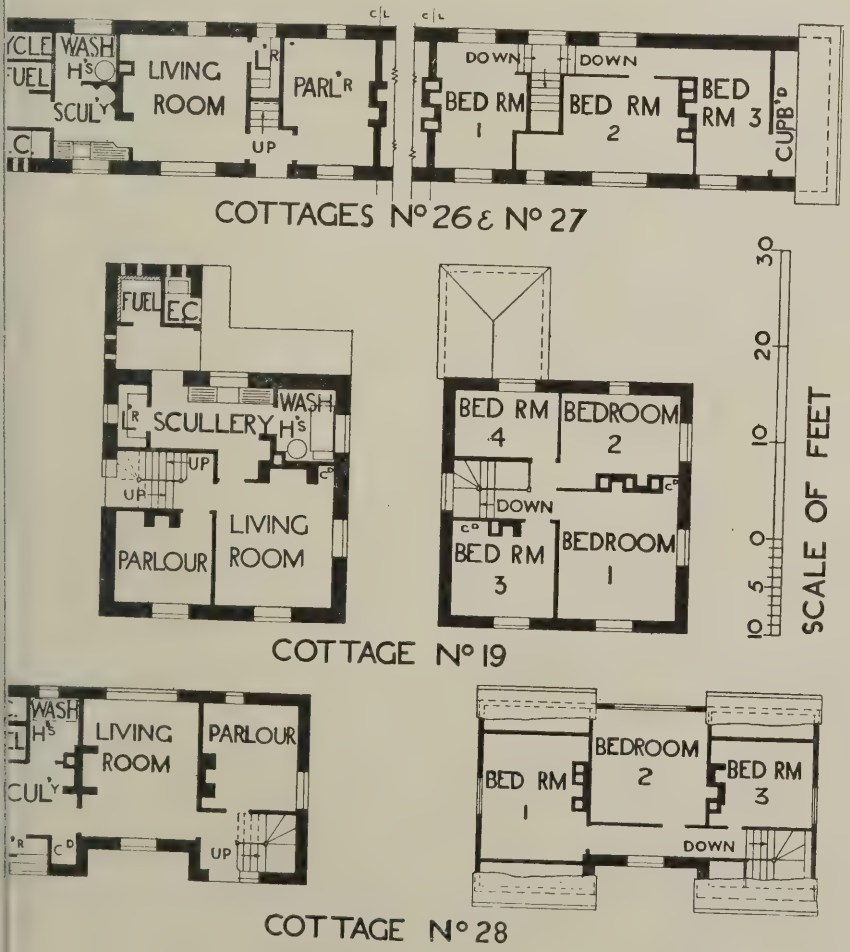
PISÉ COTTAGES AT AMESBURY FARM SETTLEMENT, WILTS.

Lintels have been given a bearing of 1 ft. upon the jambs. Over a wide opening it is best to strut the lintel as well as the support, for its vibration under the ramming may damage the jambs, and it is impossible to make solid work upon such a bottom. The attempt to build frames in as the work proceeds has not been successful, for the pressure brought against a frame by the ramming is apt to bend it slightly or displace it. The jambs of openings are formed by stops made of boards put inside the shuttering and stiffened by struts between a pair of stops or from the nearest pair of cross stretchers.

Eaves should be given a good projection, and if roofs are of tile or slate, should have plain elm board soffit and fascia left from the saw without any elaborate bracketing, and no painting whatever.

Internally walls have been two-coat plastered with seemingly very satisfactory results, but where the pisé has been left with a good and fairly unbroken surface, it is considered sufficient to finish with a brush coat of chalk or ground lime and sand in all cases where exceptional wear is not expected. In the second single cottage built at Amesbury it was decided to treat the wall of the kitchen and living-room, after making good any inequalities, with lime and sand only, and in the scullery and on the stairs with cement and sand. This is obviously an important consideration, and makes it desirable that every care should be taken in ramming to get the best possible surfaces, both internally and externally. The results of these internal surface treatments are being watched closely, for it is obvious that if a sufficiently good surface can be obtained by these methods, a large saving will be effected.

If satisfactory it would probably be economical to build interior walls in pisé even if such walls had to be 9 in. or 1 ft. thick, as plastering proper would then be eliminated from the whole of the ground



PLANS OF PISÉ COTTAGES, AMESBURY FARM SETTLEMENT, WILTS.

floors save on such portions as were built in brick. Window jambs would probably have to be rendered in cement and sand, and a wood angle fillet or flat architrave might be desirable.

Brick fireplaces, flues, and chimneys appear necessary at present, but the Ministry is not satisfied that these are essential. With added experience and some experiment, it might be possible to build these either in pisé or concrete by using flue pipes with a concrete lintel over fireplace openings, building in the latter subsequently with bricks.

The Ministry is satisfied that solid floors rather than wooden joists are desirable for the ground floors of pisé houses. If the sand and lime finish inside is successful no wooden skirting need be provided. The brick or concrete base being carried up above the ground floor level some 3 in. or 4 in. could be painted black or treated with tar, thus eliminating the skirting.

PISÉ COTTAGE AT AMESBURY FARM SETTLEMENT, WILTS.

Book Notices

A Book from the Bartlett Bottega.

Two volumes of the "Architectural Revue" having been at length completed after many delays, which have kept an expectant public in an intermittent fever of hope and despair, it is now possible to form a provisional estimate of the value of this ambitious contribution to æsthetic literature. It is not possible, however, to assign to it at present its rightful position in the hierarchy of letters. That can be determined only by the calmer judgment of posterity, when, mere temporal values having lost their force, it will be possible to see the work in its true perspective. In the meantime it is permissible to claim for it at least one quality of high æsthetic value—its healthy regard for tradition. It scorns to flirt with Futurism, ignores Impressionism, bans Baroque, negatives Neo-Grec. It is soundly if not strictly orthodox. There is no agonised straining after novelty. The few original effects arise casually, and are chiefly observable in the spelling, for example, in the rendering of the word "Revue" in the title, but probably that form was adopted to avoid slavish imitation of a classical model, or, perhaps, to avoid the consequences of a flagrant infringement of copyright.

A further spontaneous outburst of originality is the plotting-out of Volume II. to a larger scale than Volume I. The second fasciculus is an inch broader and more than an inch taller than the first; even as the normal growth in stature and in wisdom of a student of second year.

Very appropriately, Fasciculus I. has for frontispiece a typical Revue figure, in graceful pose and positive colours, "slapped on lavish" (as "Punch" would say) with the full brush of perhaps the gayest of the "few Gay Souls" to whose "spasmodic efforts" we are indebted for the merry conceits with which these two irresponsible volumes are overcrowded. Another painting from the same gay hand confirms our first impression of him as a budding colourist who is not less rich in promise than in carmine and crimson lake. But he should beware of hard lines. One may observe a certain hardness, too, as well as a most appalling hardihood, in the black-and-white drawing of the artist whose irrepressible sketching habit has planted him and his eagle in a wild jungle of motor traffic in Piccadilly Circus, to the obvious promotion of eloquence among chauffeurs and chaffers.

Two or three vigorous and vivid caricature portraits of the Higher Powers, and two fairish cover-designs may be said to exhaust the real art interest of these exhilarating volumes. Minor "spasmodic efforts," such as the illustrations to the inevitable "Mutt and Jeff" interlude, those to the imperishable "Ten Little Niggers" motif, and the series in which a student wrestles homerically with his Laocoon-like Bottega smock, reveal in each case that fine gift of the gods, that high prerogative of youth and ebullient humour, but, alas! these spasms are more remarkable for excellence of intention than for facility of expression. The same degree and quality of praise may be ungrudgingly bestowed on the rough-and-ready artist who makes the bath of Caracalla the scene of mixed bathing. This gentleman must, indeed, be a genuine humorist: he is so irreverent. As for the smock artist, a steady course of "Fougasse" and Bateman might pull him round in time. Those knock-kneed Caryatids in front of the uncompromisingly classical design for an architect's office are a genuinely comic detail of a distinctly funny general conception; while the decadent coloured decorations to the still more resolutely decadent *vers libre* on "Night" are, by intention, execrably bad. "Stresses and Strains" cubes some professor of the dismal science. "Dick" we take to be another of the professors. It must be so; for his face wears a look of profoundly pensive melancholy impossible to any mortal man who has not passed through an inferno of First-Year renderings. "Dick" is apparently a lineal descendant of Dante, whom he seems to resemble in features as well as in temperament.

What we particularly like about the "Revue" is its unfailing good taste. That it is "funny without being vulgar" need not be said. What is better, it is humorous without being spiteful. There are many brilliant bits in the text; but want of space thwarts our inclination to quote copiously.

An "A B C of Architecture" was inevitable, and many crimes are committed in this wise. This particular instance is condoned by its cleverness. Its couplets are crisp, workmanlike, and really funny: "M is a modulus merry and bright. had one once, but it died in the ni —We dare not omit a short extract the "Browserie": "When I was sket an Assyrian back-scratcher in the Mu the other day, it suddenly dawned me that these ancients were extr modern in their ideas. . . . I hav the slightest doubt that the Pelasgic p man on point duty at the Gate of was oftentimes worried by sketchful dents." Now is not that a diabol clever parody?

The Architectural Revue. The Spasmodic of a Few Gay Souls. At the Bartlett Bottega, Street. [Two vols. Priceless.]

Edinburgh Architect Association

Professor Charles Gourlay, of the Technical College, Glasgow, lecturi the Edinburgh Architectural Asso on "The Orders and their Applicat the Italian Masters," referred to the by the Italian masters of the monuments in Rome, and to their written books with the object of adv architecture by disseminating a kno of the Orders. The lecturer ex slides showing a series of drawings Italian Orders with their moulding enrichments. He pointed out th Orders should not be studied by ar tural students apart from building cause their application to buildings fundamental point in the correct tion of their value. This he emphasi describing a chronologically arrang of views of buildings erected by the masters in Italy. The application Orders as a means of giving varied tectural expression was illustrated buildings shown. Mr. T. P. Ma A.R.I.B.A., president, was in the and a vote of thanks to the lectur moved by Mr. T. Aikman A.R.I.B.A., vice-president. The dent also gave expression to the sympathy of the meeting with Pr Gourlay in his recent bereavement

Building Efficiency

Students of Industrial Efficiency may be classed in special schools of thought such as:—

Those who lay stress on motion study and regard mechanical speeding up as the best means of attaining efficient output. To these the provision of appliances and machines are more vital than the human factor.

Those who concern themselves with the question of fatigue and the workers' reaction to various types of work. To these the proper adjustment of conditions of work, together with welfare work such as facilities for lawn tennis, etc., will cure all ills.

Those who are political and care only for the relation of employer and employed, and questions of trade union and methods of rates of payment. To these the proper adjustment of wages is the root of the matter either by profit sharing or other refinements of payment schemes.

The question too often overlooked is the worker's sentiment towards the organisation he works in and for.

When a firm develops a group consciousness of its own, the various aspects of efficiency range in proper perspective and a happy and efficient organization results.

The Reputation and Experience of Firms who for over 50 years have assisted in the growth of good building and fine craftsmanship are valuable guarantees to Architects and Building Owners.

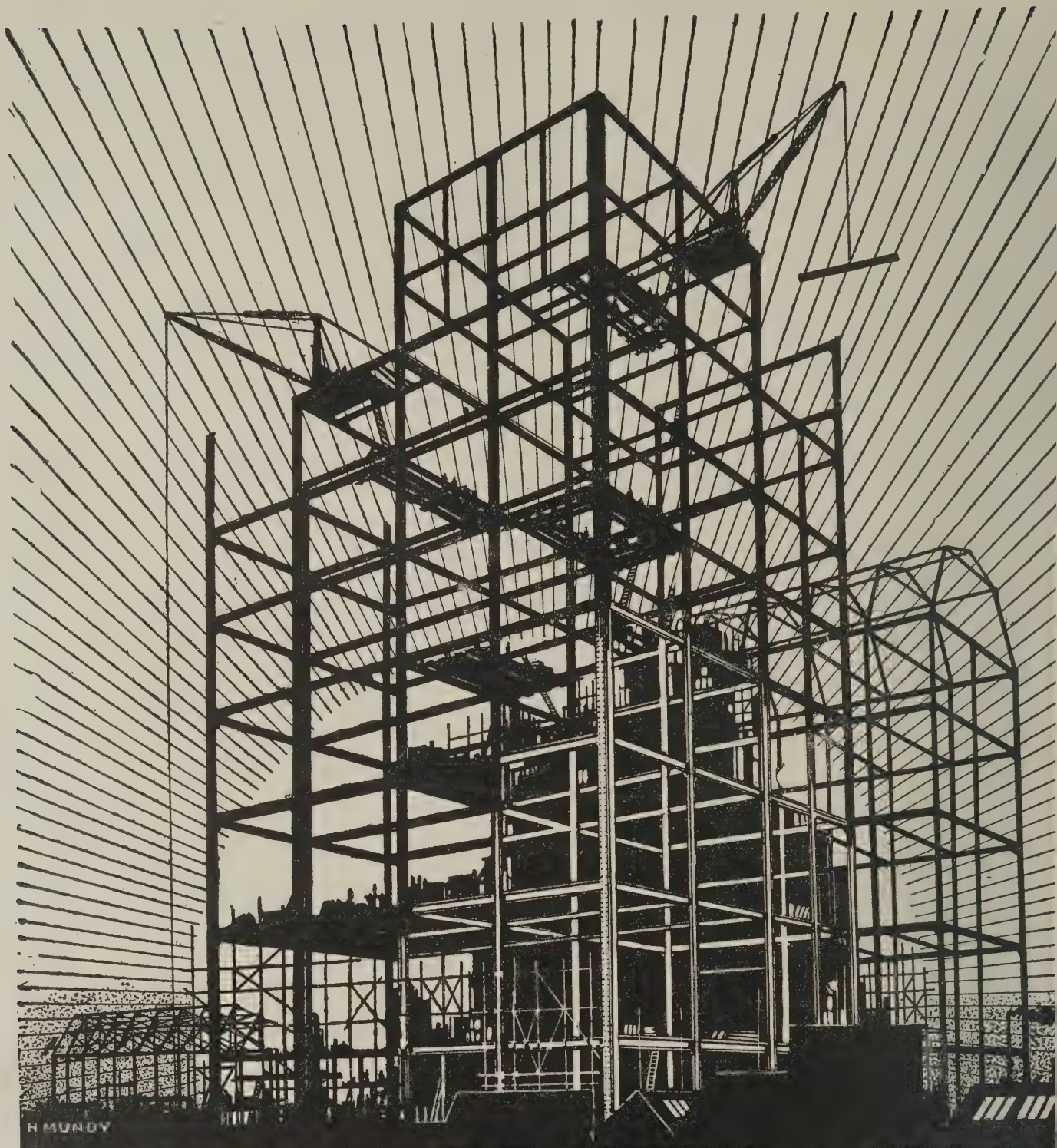
HIGGS & HILL, LTD.

BUILDING CONTRACTORS

CROWN WORKS, SOUTH LAMBETH ROAD

LONDON, S.W.8

Telephone No.: Brixton 2340



REDPATH BROWN & Co. Lt

CONSTRUCTIONAL ENGINEER

WORKS AND STOCKYARDS

LONDON
Riverside Works
East Greenwich SE

MANCHESTER
Trafford Park.

BIRMINGHAM
Office 47, Temple Row.

EDINBURGH
St Andrew Steel Works.

NEWCASTLE-on-TYNE
Milburn House.

GLASGOW
Pinkston
Office 19 Waterloo

London City Office :- 3, LAURENCE POUNTNEY HILL E.C.4

Standardised Bills of Quantities

Mr. F. H. A. Hardcastle, F.S.I., reading paper before the Surveyors' Institution "The Work of the Measuring and uantity Surveyor, and the Use and use of Bills of Quantities," said that he served with some surprise a fresh derture in the contract form issued by the I.B.A. during the present year. Forerly Clause 13 provided that variations ould be measured and valued by the chitect or by a surveyor named in the reement—usually the quantity surveyor the job. The new clause provides that s work is to be done "by the architect other person appointed by him," ther of whom, quite possibly, may be a alified measurer. Surely this was regression. An instance of the abuse or use of quantities was when an archi—alarmed at the growing cost of the lding—searched the deposited bills, and ered the omission of work to which a h price was attached so as to reduce enditure.

he proposal of a standard method of asurement had been the subject of rp controversy, and a good deal might said on both sides. But the prederating weight of argument was in ur of it. They all knew that quans were often issued which entirely ed to give the information they pured to convey and reflected little credit hose who had produced them. A good gnised standard method of measure-t, to be followed not slavishly but intelligence, would do much to ne up" the slipshod and to restrain oo exuberant measurer.

ne project of such a standard nated with the Quantity Surveyors' ciation. After considerable discus-the Quantity Surveyors' Committee e Surveyors' Institution decided that as desirable that a standard method ld be compiled, and it thus came t that a joint committee on measure-, consisting of three representatives e Institution and three of the Quantity eyors' Association, was formed, and for the first time in January, 1913.

anwhile the whole subject had ed on a new phase through the estabent in Scotland of an officially recog-"Scottish Mode for the Measure-of Building Works," and the nal Federation of Building Trades oyers approached the profession a proposal to co-operate with us, sting that in order to expedite rs a competent surveyor should be yed to draft the various schedules as s for discussion by the surveyors and ctors in conference, with a view to ng at a common understanding. The ne was the addition of four repreives of the Builders' Federation to xisting joint committee, and an nent that upon all questions on the committee arrives at a nous conclusion its decision shall be ed as final, and that as to any ques-on which the committee is not nous such questions shall be re-to the respective executive councils ir observations. If thereafter the ttee fail to reach a unanimous n, the difference shall be referred agreed arbitrator appointed by the tee, whose decision shall be final. uilders' Federation volunteered to ute a substantial sum towards the necessary expenses. The joint committee had been entrusted with great and unusual powers. Every decision which it arrived at unanimously, even as the result of compromise, was final, and came with all the authority of the profession and the trade.

A new form of contract, under the title of "The National Building Code," which has recently been put forward by the Builders' Federation, contained much that was of interest to the profession. He could not help expressing regret at the marked distrust towards architects which it displayed. In this it does less than justice. On the whole architects had discharged very difficult duties with a fairness and impartiality not always recognised.

As long as he could remember, building contracts had formed a subject of sharp discussion, and indeed it was, he feared, beyond the wit of man to devise a form "which shall not, on the one hand, entrust the architect with powers which might conceivably be made the instrument of oppression, and which, on the other, shall yet enable him to cope successfully with a builder who is unbusinesslike, litigious, or not straightforward. If the work is to go on at all with reasonable despatch, no matter what the contract, there must be good faith and a fair amount of goodwill on both sides."

Law Report

Dilapidation Claim

New Process Company v. Electric Contracts Company.

December 3. Official Referees' Court. Before Sir Francis Newbolt.

This was a claim in respect of dilapidations of factory and premises in Willesden Lane, which during interlocutory proceedings the Referee had personally inspected, the amount in dispute being £196, including loss of a month's rent.

Mr. Montgomery, K.C., and Mr. W. Allen appeared for the plaintiffs, and the defendants were represented by Mr. Graham Mould.

From counsel's statement it appeared that the plaintiffs' held a lease of the premises, where they carried on the business of carpet cleaning under the "new process," and in 1915 they granted a lease to defendant company, who were engaged in munition work. That lease was determined by notice at Michaelmas, 1918, and that was the date at which the dilapidation had to be assessed. The rent payable by the defendants was £150 per annum, plus £250, and they used the boilers and other things which plaintiffs had used in the course of their business, which, however, were not used by the defendants, but damage to some of the things through being placed in the open and allowed to rust formed part of the claim. It was some time after the determination of the tenancy that two surveyors went over the premises, and, certain repairs having been carried out, it was impossible then to tell what the real dilapidations were, but they were fortunate in having the report of another surveyor, who surveyed the place at the beginning of the tenancy. The defendants had paid into court £50, with a denial of liability, but the plaintiffs wanted £169 for the dilapidation and £25 for loss of rent.

Mr. Henry Parker, surveyor, house and land agent, of Cheapside, said that he was well acquainted with the factory, house, and premises in question. Immediately before the plaintiff company took the lease he inspected the premises, and in September, 1915, he again made a survey and found them to be in a good state of repair. The managing director of the defendant company went over with him, and expressed himself satisfied with the conditions in which they were. At the expiration of the tenancy he again made a survey.

The defendants pleaded that the charges in respect of which the plaintiffs claimed were grossly exaggerated, and even included a charge for the removal of electric coils and cases left up, which they contended were no detriment to the property.

After the expert evidence had been given a settlement of the action, after consultation, was arrived at, the defendants agreeing to pay £195, to include costs.

Electrical Development

The annual luncheon of the British Electrical Development Association was held on Friday at the Hotel Cecil. Mr. Gordon Selfridge was among the guests.

The President (Mr. Hugo Hirst), proposing the toast of "The Electricity Commissioners and the Institution of Electrical Engineers," said that he was not usually a pessimist, but he could not just now raise his enthusiasm to the necessary pitch when thinking of the future of electrical development. The sky was overcast. Money was short, goods were short, and the market was bad. Those conditions led to unemployment and the difficulties with which they were faced to-day. But for all that electricity would play an important part in the reconstruction of the world.

The toast was responded to by Sir John Snell, chief electricity commissioner, who remarked that just as the object of the Association was the development of electricity, so was development the object of electricity.

Mr. Ll. R. Atkinson, president of the Institution of Electrical Engineers, expressed himself as being more hopeful of the future than was their president. Speaking of the popular mystery which surrounded electricity, he said that he thought it was because people had no electrical sense—they could not smell it, could not see it, could not hear it, But electrical experts knew the physical proportions of electricity much better than most people knew the physical proportions of their own boots. There was nothing occult about it. The Association was reaching a period when it was going to force electricity upon every home. They intended entering upon a vigorous propaganda in the near future, and they believed that half the disease, half the work, and half the dirt would be banished by the increased use of electricity.

The toasts of "Our Guests" was proposed by the chairman of the E.D.A., Mr. A. F. Berry; and Mr. Selfridge replying, said that the purpose of the Association, as he understood it, was to remove the conservatism which existed on the part of so many people—the conservatism which prevented the man from using the telephone because he never had used it was beyond his comprehension, but that spirit could be removed, and would be removed, and if that Association continued in what it had set out to do, and that was to gain increased publicity.

Saracenic Architecture Discussion

An interesting discussion and some criticism followed upon the reading of Mr. Martin Briggs's paper on "Saracenic Architecture" (excerpts from which were given in THE ARCHITECTS' JOURNAL last week) before the R.I.B.A. on Monday of last week. Mr. Walter Cave, vice-president, occupied the chair, and there was present H.R.H. the Emir Feisul, ex-King of Syria, attended by General Haddad.

Professor T. W. Arnold, Professor of Arabic at the London University, moved a vote of thanks to Mr. Briggs. Although an outsider and one ignorant of the art, he said he could yet express his delight in Mr. Briggs's scholarly exposition, and there were one or two points in the lecture which were open to one like himself to discuss. One point on which Mr. Briggs had invited criticism was the use of the word "Saracen."

It was never used by the Moslems themselves. One met it first in the works of the Greek historians, and later it passed into the Latin chronicles in describing their Moslem enemies. It was a matter of doubt as to whether in speaking of a people one should apply to them a term used only by their enemies. There would be a similar objection in speaking of "The ecclesiastical architecture of the *Boche*." Again, the term "Saracen" was in use long before Islam, and that was another reason why it was hardly admissible in speaking of Moslem architecture.

Concluding, he thought that the Institute might be congratulated, as Mr. Briggs himself might be congratulated, in bringing forward a subject which had hitherto been so long neglected.

The vote of thanks was seconded by Sir Banister F. Fletcher, who remarked that all the competitors who entered for the great hospital to be built at Quasr-el-Aini must seriously consider how much Mahommedan art they were going to use in its design.

Mr. Edward Warren, F.R.I.B.A., expressed an opinion that the reason for the globular dome was to be found in the fact that it required no centering. Pendentives, he thought, originated in the corbel, which had caught the Eastern fancy.

The Chairman, in tendering to Mr. Briggs the thanks of the Institute, said how much honour and pleasure was theirs in having present that evening His Highness the Emir Feisul.

Housing Progress

The Ministry of Health report that contracts have been placed for 17,722 houses to be built by the special methods of construction (concrete, pisé de terre, etc.) which have been sanctioned by the Ministry of Health. Of these houses (which are included in local authority housing schemes), 4,658 are in course of erection. Under the terms of the Government grant to private builders 4,170 houses are being built by special methods, of which 2,530 are in concrete and 1,516 in timber framing.

Building under the terms of the Government grant to private builders proceeds very steadily. During the week ending December 11 316 privately built houses were completed, twenty more than in the previous week, and only nine less than the greatest number completed in any one week. Altogether the grant has been paid in respect of 4,493 houses. Certificate "A," giving sanction to proceed with building under the grant, has now been issued in respect of 26,513 houses, and 535 of these certificates were issued last week.

New housing schemes submitted to the Ministry during the week ended December 11 numbered 50, bringing the total number of schemes submitted to 11,408. The schemes approved now number 8,736, and comprise about 57,666 acres. Forty-one lay-out schemes were submitted, and 54 were approved during the week, bringing the total number of lay-outs submitted to 6,857 and number approved to 6,289.

House plans representing 1,757 houses were submitted, and plans for 1,487 houses approved. The total number of houses represented in all plans now submitted is 281,583, and in the plans approved 265,576. During the week tenders were submitted for 1,456 houses. Tenders for 2,245 were approved, bringing the total number of houses in tenders submitted to 179,764 and in tenders approved to 166,471. Contracts have been signed for 133,301 houses.

The Week's News

New Church on Salisbury Plain.

It is proposed to build a memorial church at Bulford Camp on Salisbury Plain.

Rhymney Housing Scheme.

The Ministry of Health have sanctioned a further loan of £50,000 in connection with housing.

Newry Isolation Hospital.

The Newry Port Sanitary Authority have decided to proceed with the erection of an isolation hospital. The estimated cost is £1,400.

Boston Housing Loan.

Boston C. have received the sanction of the Ministry of Health to a loan of £70,000 for erection of working-class dwellings.

Guildford Park Housing Scheme.

One hundred and thirty-six houses have been commenced, sixty-two being roofed in and slated or tiled; eighteen houses are practically finished.

Housing at Irlam.

Housing schemes are proceeding on four different sites. Great headway is being made with ninety houses being erected by direct labour at Cadishead.

The King and the Building Trades Exhibition.

The King has consented to become the patron of the International Building Trades Exhibition, to be held at Olympia next April.

Ingots of Gold for the Abbey Fund.

Ingots of gold—coronation gifts made to Westminster Abbey by King Edward and King George—are to be realised and the proceeds applied to the Abbey Restoration Fund.

New Picture Theatre at Wandsworth.

A new picture house has been opened at Wandsworth. Special attention was paid to the ventilation and heating. Warmed fresh air enters the hall under pressure, and when it becomes vitiated it is removed by means of large ventilators in the ceilings controlled by huge electric fans. In addition, it is warmed by hot water radiators.

£50,000 for the Garter Chapel.

The Chapel of St. George's at Win is in urgent need of repair, and this w is now being taken in hand. It is mated that at least £50,000 will be requ to carry out all the restoration of the fa that has become necessary.

Wrexham's War Memorial.

It is proposed to erect a war mem hospital for Wrexham and East Dent shire. £27,958 has already been rec or promised. Mr. W. J. Walford London, architect, has been entrusted the preparation of the plans.

Hydro Electric Power House, Asw

Mr. Theodore Stevens, M.Inst.C M.I.M.E., is consulting engineer for hydro electric power house at As Egypt, plans and illustrations of w were published in our issue of No ber 24.

Wrexham's Housing Scheme.

Wrexham T.C. have decided to pr with the second batch of houses in nection with their extensive ho scheme at Acton Park, estimated to £750,000. Professor Abercrombie Liverpool, is the architect.

Dalston's New Picture House.

In Dalston's new Picture House auditorium has been constructed upon affording a clear view of the screen every seat and has a holding capaci 3,000 persons. Special attention has paid to the question of ventilation, a 5 electric motor having been installed.

Palmer Hospital, Jarrow.

The whole of the rear portion o Palmer Memorial Hospital has bee modelled and enlarged. The imp ments include a new surgery, wa rooms, post-mortem rooms, mortuar orthopædic department, and a large mittee room and additional accom tion for the staff. The architect fo scheme was Mr. C. W. Newby, Jarr

University College of South Wa

The Council of the University C of South Wales and Monmouthshire appointed Mr. W. S. Purchon, A.R.I.B.A., part-time lecturer in ar ture, an appointment he will hold with his present one, that of head department of architecture and civ sign at the Technical College, C This new appointment has been m a preliminary step towards arra joint courses in architecture betwee University College and the Technic lege.

Mr. John B. Hector.

The Secretary R.I.B.A. asks us t publicity to the following notice: M B. Hector, Licentiate, of 33, Tothill Westminster, S.W., writes pers under date December 10, contra the announcement of his death made Business Meeting of November 29. Secretary greatly regrets the erro hastens to explain that a letter ad from the Institute to Mr. Hector's address in Maida Vale on Novem was returned through the post uno the envelope being endorsed, "Re four years ago.—A. M." The Se wishes to express his very great p to hear on such unimpeachable au that the announcement is a false or that Mr. Hector is living and in t of health.

esday December 29, 1920

Volume LII. No. 1356

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal"

JAMES STUART, F.R.S., F.S.A. (1713-1788)

James Stuart was born in London, and at an early age was employed in painting fans for Lewis Goupy, in the Strand. It is thought that the views of classical buildings used to decorate these fans first turned Stuart's thoughts to the study of classical architecture. He journeyed to Rome in 1741, travelling a great part of the way on foot, and earning money as he went. In Rome he met Nicholas Revett, with whom he visited Athens in 1751, for the purpose of studying Greek architectural remains, Stuart making drawings in colour, and Revett supplying accurate measurements. Their joint work, "The Antiquities of Athens," was not published until 1762, when, however, it had considerable effect, greatly stimulating the development of the classical style of architecture in this country.

27-29 Tothill Street, Westminster, S.W.1.

F

Current Architecture. 53.—Marylebone Town Hall, London: Principal Elevation

T. Edwin Cooper, F.R.I.B.A., Architect

Commenced in 1914, just before the outbreak of war, this fine new building was completed, and formally opened, during the early part of the present year. A description of the work and some further illustrations are given on pages 767-700.

THE
ARCHITECTS' JOURNAL
27-29 Tothill Street, Westminster, S.W.1.

Volume LII. No. 1356

The Architects' Journal.

Subscription Form.

Note re Special Issues. Annual Subscribers to The Journal get all Special Issues included in the Ordinary Subscription rate of £1 : 7 : 6 post free.

Please send me The Architects' Journal for the year 1921 at the post free Subscription rate of £1 : 7 : 6.

Name.....

Address.....

.....

TECHNICAL JOURNALS, Ltd., 27-29, Tothill St., Westminster, S.W.1.

been con-
d builders
st degree

that it is
ing—loses
ie housing
concerting
ernment to
ex-Service
or can the
ete success
cottages,
that failed
reckage of
Still, this
anagement
government
and know-
is that of
vehemence
rtion to its
fallacy, the
Society of
uilders have
dvice, which
hat the New
to free the
ckles.
ifficult if the
voce. It is
lly lacks the
or us.
on of a dozen
s of hopeful
g architects,
mately bring
e. In taking

ent reiteration does not make ...
does not prove it false. Can it be brought to a
sue either one way or the other? Exact ascertain-
what is "a fair day's work for a fair day's pay"
much to expect; but there seems a consensus of
that increased production is not only easily pos-
ut is absolutely necessary to enable the country
ts way. It cannot long continue to do that if the
for wages remains below par. So grave has the
ic position become because the fruits of labour
canty and so dear, that many industries have been
short time, which means short commons for the
as well as profitless business for the employers.
ecessary to get at the root of this evil, and an
attempt to do so should be one of the earliest
of the New Year.

the past year has been a comparatively lean one
itects and builders is a direct consequence of the
ed Government control of building. To cling
naciously to a war-time expedient is a policy of

the initial step towards this consolidation—that of consolidating the Profession as a necessary preliminary to Registration—the Joint Committee has a stupendously heavy task in hand, but we will hope that they may be able to complete it in time to make the year 1921 memorable in the annals of the Profession.

Side by side with this great issue of Unification and Registration, and to some extent dependent on it, is the much-needed reform of architectural education. Since the Institute, the Society, and the Royal Academy are pulling together on this subject, especially in the promotion of the atelier system, we make no doubt that the year 1921 will see architectural education placed on a firm basis of co-operative effort—the various schools all linked together, and all giving access to the various universities.

Like its predecessors, the New Year is rich in promise. May it be also rich in fulfilment! We could offer our readers no better wish for A Happy New Year!

Notes and Comments

St. Paul's Bridge and Charing Cross

Postponement of the St. Paul's Bridge scheme in favour of a bridge at Charing Cross is again being advocated. Captain Swinton's suggestion that the City Corporation should temporarily pigeon-hole their project and help to regenerate the Charing Cross area has not, we think, the slightest chance of adoption. Sir Reginald Blomfield, in giving it his blessing, nevertheless recognised the reasonableness of the attitude of the Corporation. Incidentally, he admitted that while a line leading to the south transept of the Cathedral, and giving a grand vista of the dome, would have been gratifying, architecturally, it would not have met traffic requirements as satisfactorily as the Corporation scheme, which will make a direct road from a point in South London where several important roads converge, whence it would carry extensive traffic straight through to the Angel and Islington thus affording direct transport connection between the southern, midland, and northern counties. At the same time, as Sir Reginald says, it is almost equally necessary "to get a through-way from the south side of the river between Westminster and Waterloo Bridges, which shall go direct northward through Charing Cross Road, Tottenham Court Road, Hampstead Road, and Hampstead." He is not without hope, which all architects share to the full, that ere long the Corporation will cheerfully bear a hand in the great civic scheme for Charing Cross, which, being of first-rate national and Imperial importance, the City Fathers will rejoice to take part in it.

The London Guild of Builders

At last the London Guild of Builders has got to work. Its adventures at Greenwich and Walthamstow will be watched with the keenness of interest that so daring an experiment cannot fail to excite. We have no wish to prejudice the issue, but we think it mere justice to observe that if in these or in any other instances the contractor proper is eliminated, the loss of his skill and experience in management and direction must surely militate against success, even in the comparatively simple matter of housing. By the way, would not the elimination of the contract be a sort of breach of the rules, written or unwritten, of "demarcation"—a violation of the trade-union principle that one man may not do another tradesman's job? This law, imposed with the utmost rigor as between trades-unionists, and often greatly to the detriment of the unoffending employer, seems to have no force when the only sufferer from the suspension of this standing order is the master-builder! No doubt the National Federation of Building Trades Employers will keep this point in mind. No doubt the answer to it will be that the Guild does not really exclude contractors, few if any of whom, however, can relish the terms of admission.

Government and the Builders

Government may yet succeed in coaxing the building trades unionists to admit ex-Service men to their ranks. In fact, it would almost seem as if the unionists refused to meet Dr. Macnamara because they saw no other way of evading his very generous offers and his very persuasive case for the employment of ex-Service men and the advancement of housing. The workers jibbed at the ugly word "ultimatum," which in reality had the bland significance of a final offer beyond which the Government were unable to go. It is understood that on condition that the unions would accept a minimum of fifty thousand ex-Service men, the Government would give a certain monetary grant for every man admitted, would offer certain guarantees against unemployment in the industry, and would grant a system of liberal ment in respect of time lost through bad we Desperate diseases suggest desperate remedies, a do not care to cavil at the somewhat demora character of these magnificent offers. We a anxious—and in this matter the master builders ar us to a man—as the Government can be to see gallant ex-Service men employed, and to see building going ahead at top speed; but we thinl both these objects would have been earlier and easily attained if the Government had entirely guished all control over building. As matters stan Government are in a very grave predicament on issues; and if it comes to a fight with the sullen u as we sincerely trust it may not, either side may wi both must suffer severely, and so, unfortunately the ex-Service men and the housing.

Southwark Bridge

It is now possible to get a glimpse of Sout Bridge, the roadway over which is being formed. stated, however, that the bridge will not be ready opening ceremony until February or March next. bridge it succeeds was opened in 1819, and, eve the war had interrupted the building of the new it was hoped that the work would be finished in ti fetch up with a round turn," as the sailors phrase opening in 1919, exactly a century after the ina tion of John Rennie's bridge. It must not be tak a hundred years indicates the "life" of that brid chief reason for its demolition being the steepnes gradient, which heavily discounted its utility, traffic avoiding it like the plague. Sheer util governed the design of the new bridge, which engineering structure, may rival the project Paul's Bridge, for which, however, Mr. George ington Browne, R.S.A., has produced an archi design of indisputably high merit.

The Art of Medal-making

Medal-making is a very special branch of ar manship, and there are a few pessimists who decl those proficient in it are almost an extinct race. troversy on the subject has taken place in "The Service medals and modern coins receiving an equal share of attention. It seems to be the opinion that our medals as well as our coins a lacking in artistic grace. A participant in the controversy suggests that the Mint should train cr in the handcutting of dies or punches from whic be made most of the dies required for modern "There are," he says, "still a few men left who this dying craft, and who, if a prospect of emp were assured, could train others." He regrets æsthetically-minded persons must do, that the tions of a design have actually been altered "in give room for a cheap and nasty clasp, or the su a medal ruined by sand-blasting." Here, it wou we have a minor art that, capable of very beautif festations, has been brought to the verge of ru course of ignorant interference that has been p by officials ever since the accession of Queen Excellent designs have been from time to time p —a few of them by architectural draughtsmen— been almost invariably spoiled in the making. that this matter was taken in hand, and poss discussion of the subject in "The Times" will that very desirable consummation. The ar interest in medals and coins is inveterate, and always quickened by, if it did not actually orig the fact that many ancient specimens depict bui which there is no other graphic record.

mmary of the Chief Events of the Year

Royal Institute of British Architects

address from the R.I.B.A. congratulating the on the successful conclusion of peace was sent to Majesty through the Home Secretary immediately the ratification. His Majesty was pleased to e it very graciously.

Council nominated M. Ch. Girault for the Royal Medal. M. Girault is the thirteenth French archi- receive the award.

Interim Report of the Charter Committee, recom- ng certain means of giving effect to the general of the profession for unification and registration inted in our issue of March 17.

a special meeting held on March 22, it was unani- approved of the Council's proposals to prepare a ehensive scheme for unity of the profession, and to t for that purpose a committee representative of tire profession.

Unification Committee was detailed in the l for July 7. Its first meeting was held on Tues- uly 20, Mr. John W. Simpson presiding.

heir annual report, the Council of the R.I.B.A. hat the Building Industries Consultative Board, enting architects, surveyors, contractors, and ves, had come to the unanimous decision that the ital need of the moment was the removal of all of Government control over the activities of the y. The membership of the Institute stood at

The hon. auditors called attention to the success hich the finances of the Royal Institute have with- he strain of the war years.

Council resolved to recognise for exemption s Final Examination (except for the portion deal- h Professional Practice) such schools as have set e years' diploma or degree course.

Council appointed two representatives to the ouncil on the question of the threatened City es, and five members to attend the Imperial y Conference.

Stoppage of Building Committee was diligent out the year in collecting evidence and forming as to the ill effects of Government or municipal ions on building.

rawing up a code of professional conduct and e, the R.I.B.A. have produced a document that very clearly the functions and manner of con- architects.

Form of Agreement and Schedule of Conditions lding Contracts was issued in a revised edition. t title is "The Model Form of Contract."

Other Institutions

in the year, the A.A. was incorporated under npanies Act, a step that relieves trustees of the phantom of financial risk that had hitherto l them. The special general meeting which the resolution for incorporation was reported in e of February 4.

A.A. premises in Bedford Square became so overcrowded that steps had to be taken to en- e accommodation. The scope of the schools was l, and Mr. Robert Atkinson was appointed of Education, a post equivalent to that of Dean versity faculty.

eport for 1919 of the Council of the Society of cts stated that the total membership then stood

Council appointed Mr. de Soissons to be Sous- of the First Atelier, London.

in the year it was announced that a "Maison de de France à Londres" was being established, Baron Edmond Rothschild having founded and endowed twenty-one scholarships tenable there. The scheme was that the several ateliers in London should be federated, and their regulations standardised, each atelier, while retaining its independence, forming one of a group affiliated with the Royal Academy.

The Rome Scholarship in Architecture, awarded by H.M. Commission for the British School at Rome, was gained by Mr. F. O. Lawrence, A.R.I.B.A., of Liverpool University School of Architecture, from which school came also two competitors who carried off minor awards.

In April it was announced that a scheme had been prepared, under the general supervision and control of the Royal Academy, for the co-ordination of advanced architectural training in a group of ateliers, which will work on the Beaux-Arts system.

The Architects' and Surveyors' Assistants' Professional Union celebrated, on March 4, its first anniversary by holding simultaneously meetings in the chief towns of the kingdom. The union is interesting itself actively in obtaining improved educational facilities for the assistant.

At a meeting of master glasspainters held at Staple Inn, London, in April, under the presidency of Mr. Selwyn Image, it was unanimously decided that an association be formed bearing the title the British Society of Master Glasspainters, with Mr. Maurice Drake as hon. secretary.

In March the Federation circulated a resolution disapproving strongly of the "Foster Report" of the Industrial Council for the Building Industry.

The half-yearly summer meeting was held this year at Newcastle-on-Tyne.

Mr. F. L. Dove presided at the annual general meeting of the National Federation of Building Trades Employers, which was held in London on January 28. Mr. Stephen Easten was elected president for the ensuing twelvemonth. In his inaugural address, Mr. Easten outlined a scheme which he had submitted to Sir James Carmichael for expediting the building of houses on a cost-and-profit basis.

At a special meeting of the National Federation, a resolution strongly opposing the Government's wet-time scheme was passed.

Exhibitions

An Ideal Home Exhibition was opened at Olympia on February 4.

After an interval of seven years, the Building Trades Exhibition was resumed on April 10, closing on April 24.

The one hundred and fifty-second exhibition of the Royal Academy of Arts, which, as usual, opened in May and closed in August, was very successful with the public, but its architectural room reflected the dearth of new buildings.

An Empire Timber Exhibition was held at Holland Park from July 5 to 17. It was promoted by the Department of Overseas Trade with the object of introducing Empire timbers that were but little known in the United Kingdom.

Housing

Protests were made against building operations other than for housing, notably in the case of the proposed telephone exchange in the Spitalfields area.

Particulars of the Ministry of Health grants towards the cost of building were given in our issue of February 4, in which also was an outline of the new regulations to govern luxury building.

The conditions prescribed by the Minister as to the planning and construction of houses in respect of which

grants may be made was given in our issue of February 11. A specification was included.

A three-days housing conference convened by the R.I.B.A. at the Ideal Home Exhibition at Olympia was opened by the Minister of Health, with Sir Reginald Blomfield in the chair.

A memorandum on "luxury building" issued by the Ministry of Health was summarised in our issue of February 18.

In February the R.I.B.A. called attention of members of the Institute and of allied societies to the vital importance of avoiding delay in the preparation of housing schemes, and urged architects to give such work, as far as possible, priority over their other professional work.

Government advised that each local authority throughout the country should appoint a special housing committee, which should determine the relative importance of buildings, for which permission might be granted or withheld. Such buildings were to be graded as Low, Intermediate, or High, according to their relative degrees of usefulness.

A general housing memorandum issued by the Ministry of Health in March, embodied decisions with respect to grants to private persons building houses.

In May the Housing Department of the Ministry of Health issued a revised form of the contract for lump-sum prices first issued by the Ministry in September, 1919.

An Inter-Allied Housing and Town-planning Congress was held at the Central Hall, Westminster, for seven days from June 3.

The second annual conference of the Town-Planning Institute was held at Bath in September.

Extension of the period during which subsidies were paid by a further twelvemonth, but it was not proposed that the aggregate amount of £15,000,000 authorised by the Act should be increased.

In July a Government scheme for stabilising the building trade was announced. Workers were to be guaranteed employment for five years, to have the "hour's notice" extended to a week, with payment even when bad weather stopped work. This scheme was not relished by employers, and it was dropped when the operatives objected to accept dilution, for which the scheme was proposed as a *quid pro quo*.

The agreed architectural fees for housing were set forth in detail in our issue of July 21.

Personalia

In February, Sir Charles Ruthen resigned his position as Chief Inspector to the War Cabinet Committee on Accommodation, etc. He accepted the post, however, of Honorary Chief Inspector, in order that he might not entirely sever his connection with the work.

In March, Sir E. L. Lutyens was elected R.A. He had been A.R.A. since 1913. Sir Edwin is now in India in connection with the building of the new Delhi.

Mr. Lawrence Weaver, Hon. A.R.I.B.A., received a knighthood in recognition of his services rendered during the war as commercial secretary to the Board of Agriculture.

At the annual meeting of the Institute of Builders, on March 10, Mr. Edmond J. Hill presiding, Mr. S. Smethurst was elected president.

In the City of Paris Town-planning Competition, the only prize-winner of British nationality was Mr. Adrian Berrington, who, conjointly with two French architects, gained prizes of 10,000 and 2,000 francs.

The King of the Belgians bestowed on Mr. Ernest Newton, R.A., the Cross of Officer of the Order of the Crown.

Mr. E. C. P. Monson, F.R.I.B.A., in his presidential address to the Institution of Sanitary Engineers, said he believed that he was the first architect to be elected President of that Institute.

The portrait of Mr. Henry T. Hare, painted by William Llewellyn, was added to the Institute's ga of past-presidents. To Mr. Arthur Keen fell the ho of unveiling it.

Mr. Thomas Hardy, who fifty-eight years before gained an Institute medal, was offered and accepte hon. fellowship of the Institute.

Sir Robert Lorimer was elected A.R.A. (April).

Mr. W. S. Purchon, M.A., A.R.I.B.A., was, in A appointed to the headship of the Department of Design at the Technical College, Cardiff. He had a high reputation at Sheffield, where for twelve yea was head of the University School of Architecture.

Mr. E. Fiander Etchells was appointed preside the Concrete Institute.

Mr. Harold Chalton Bradshaw, A.R.I.B.A., elected hon. sec. to the Faculty of Architecture c British School at Rome.

Sir Reginald Blomfield, R.A., had conferred upo by Liverpool University the honorary degree of D of Letters.

In June, Mr. Philip Sydney Scott, architect, Old received a baronetcy.

Sir Frank Baines was, in June, appointed head newly consolidated architectural and surveying d ments of the Office of Works.

Mr. Cass Gilbert, on his visit to London in July entertained at dinner by the Council of the R.I.B.

General

As from April 1, the Boards of the Associated land Cement Manufacturers, Ltd., the British Po Cement Manufacturers, Ltd., Martin Earle and and the Wouldham Cement Co., Ltd., consol their selling and distributing organisations, formi Cement Marketing Co., Ltd.

"Registration, the Topic of the Hour," was th ject of a series of articles (appearing in our issu April 7, 14, and 21) setting forth the opinions of le provincial architects who had been interviewed b special commissioner. Opinion in the Provinces, ascertained, was almost unanimous in favour of tration. For important initiative in this matter, has been claimed (Journal, April 7) by Mr. C. Mc Butler, secretary of the Society of Architects, who that in 1912 he "publicly advocated, pending sta Registration, the formation, by agreement betwe parties concerned, of a council of architectural bo deal with matters of general professional interest."

In May it was announced that the Governme offered to London University a site of about 11½ behind the British Museum. This offer, a decorous show of coy reluctance, the Senate ulti accepted by 26 votes to 9.

Building Guilds were under discussion in the during May, when a scheme was put forward b London District Council of the National Federat Building Trade Operatives.

Within a few weeks of the Government offer o for London University, the Rockefeller Foun offered £1,205,000 to University College H Medical School and University College. The consequently ensue important building work.

On November 11 a deputation of British ar met in Paris members of the Académie des Beau and the chief architectural societies of France in ence on the problems of architectural education.

St. Paul's Bridge scheme has been revived un plea of providing work for the unemployed, whos bers are daily increasing. An extension of time the special Act will no doubt be willingly gran Parliament. The original estimate for the wo £1,646,000, but the cost consequent on the rise i is now estimated at something like £4,000,000.

dern American Architecture. 12.—Minnesota State Capitol, St. Paul, Minnesota

Cass Gilbert, Architect

This great building, one of Mr. Cass Gilbert's most important works in the monumental manner, has a frontage of 434 feet, and a depth of 132 feet. The dome, 100 feet in diameter, is 264 feet above ground level at its highest point. The cost of the building was approximately $4,000,000. The sculptured figures in the attic over the main entrance, representing Wisdom, Prudence, Courage, Bounty, Truth, and Integrity, were modelled by the distinguished sculptor, Daniel Chester French. The quadriga surmounting the attic is also the work of Mr. French.

Architectural Causerie:
The Eighteenth Century in London

MY Christmas feast has been the perusal of Mr. Beresford Chancellor's attractive book dealing with the social life and arts in London during the eighteenth century. The view of ast really decorative period in English history set by the author embraces a rare and proper account phase of past life, art, and politics destined to me the basis of present-day endeavour, particularly, be known, in the realm of building.

* * *

r my own part I refuse to acknowledge the usual ations imposed by writers on architectural matters, of whom dismiss the subject between the bracketed , 1700-1800, perhaps for the convenience of round es. The eighteenth century had its beginnings General Monk welcomed Charles the Second at r, it waxed to its zenith under the third of the ges, while its soft reverberations accompanied the that announced the coronation of Queen Victoria. ruth is, the eighteenth century borrows forty years the seventeenth, and lends another forty to the eenth at a diminishing rate of interest.

* * *

architects the whole range of the eighteenth cen- from Wren to Nash, means red brick, Portland , Liardet's cement, or stucco. We are apt to forget uman side, to ignore the tone of London, in itself a ar legacy of the past; we form committees for ving away Wren's towers; we allow the myrmidons e pickaxe to wreck precious houses that show no of senility at two hundred; and we sanction with- shudder so-called improvements unworthy of the est centre in the provinces. Stay, this is the festive n. I will not indulge in a Jeremiad, so here goes; he curtains closer. A few more candles, please; the logs on the fire, bring me the puppet-box ed eighteen, and the picture books with the nts and engravings.

* * *

s not long since I had the privilege of meeting an ect who first saw the light when George the Fourth ing. He had been brought up in Bath, where ord was living in retirement; he had known Elmes oy in his father's office; had seen William Wilkins ff the fast coach when the latter came down to the reading-room; he waxed enthusiastic of the at once thronged the streets and gathered at the bly. This kind old architect has been dead these ars. He formed to me a link with the past. When ned to his talk it seemed as though I was privileged back into the vanished years, and if my friend me in personal reminiscences I asked for tales of her, a pupil of Soane's, or supplemented matters ncing into the first sketch-books of Cockerell when rted off for his Devonshire tour a hundred and years since. By such links I have contrived to twenty or more decades of time, and that without lent exertion, for the beginning of the last century nvenient starting-point for either direction.

* * *

don in Wren's time was somnolent in its mediæval t. The Tower was a dreadful place of repentance l-doers, the heads of traitors garnished the City and, while the City accepted a new mantle of and red, the order went forth regarding the g to the old lines. Who has not heard the ring of ash from the campanile of St. Paul's with answer- ls from the throats of Wren's towers without living over again in the past. The bells that enlivened the days of Pepys and Evelyn, that echoed to Whitehall and St. James's, were heard by King and courtier. Here in the sound that cheered our forebears we have another link with the past. Now the puppets obey the call and come tumbling out of the box. Here is Vanbrugh, with his jolly face peeping out of the heavy wig; there we see James of Greenwich succeeding Wren in the surveyorship of Paul's and the churches, spending his spare time without doubt at Eversley; Addison, Steele, Swift, and Gay. The heavy courtiers of the Court of George the First, the fair ladies of the Court of his successor. Hogarth limning, Gay satirising nobility and mobility.

* * *

London in the eighteenth century was the centre of things. We can see in its development the beginnings of that which we are pleased to call modernity to-day. Viewed in retrospective the sequential development of almost any period appears logical. The London of Gay's time reveals the citizens of all classes struggling with the tentacles of the South Seas speculation; it also shows, on the architectural side, the rubicund figure of Gibbs standing forth as an exponent of rules and orderings of building; while my Lord Burlington poses as the true director of the arts from behind his screen in Piccadilly. By the year seventeen-thirty the age of good sense had become established. There was a growing desire to inquire into causes before accepting effects, a curiosity that applied to other things besides building. How the good people enjoyed their copies of the "Spectator" and the "Tatler"; with what avidity the issues of the "London Magazine" were read and digested.

* * *

London in the middle-period was spreading westwards. Bloomsbury had had its day, and was no longer fashionable. Soho Square had lost its attractions. Berkeley Square, Piccadilly, St. James's, and Hanover Square were in favour. Fashion flocked to the groves of Ranelagh or to the chocolate houses; valetudinarians to Hampstead, where the fortunate lived in Church Row, and frequented Flitcroft's new church; others to Richmond or Hampton Court, for eighteenth-century London had already begun to shed particles of its bricky substance amidst the surrounding green fields. Ranelagh did I say? Belsize, Vauxhall, Marylebone, Kew, Twickenham, and a hundred other places engaged the attention of pleasure-seekers of all ranks.

* * *

It is impossible to deal with the life of this period within one Causerie. Mr. Chancellor has found difficulty to compress it in the two hundred and eighty pages of his alluring crown quarto. Here in this fascinating book we can review the social life of the period; we can study the aspect of the streets at our own fireside with all the satirical humour of Gay. The pleasure resorts are opened to our gaze in the drawings of Donnowell and others. We can even attend an execution at Newgate with Rowlandson as cicerone. Clubs, coffee-houses, theatres, and taverns are open for our entertainment; we can almost accompany the actors as they strut the boards, or smell the oranges eaten in the pit. Space alone prevents my continuing; the miniature figures with three-cornered hats, macaroni dress, and gold-headed canes, are impatiently awaiting my decision; while others peep up at me as though expecting a show. No more at present, so back into the box you go, my hearties.

AERO.

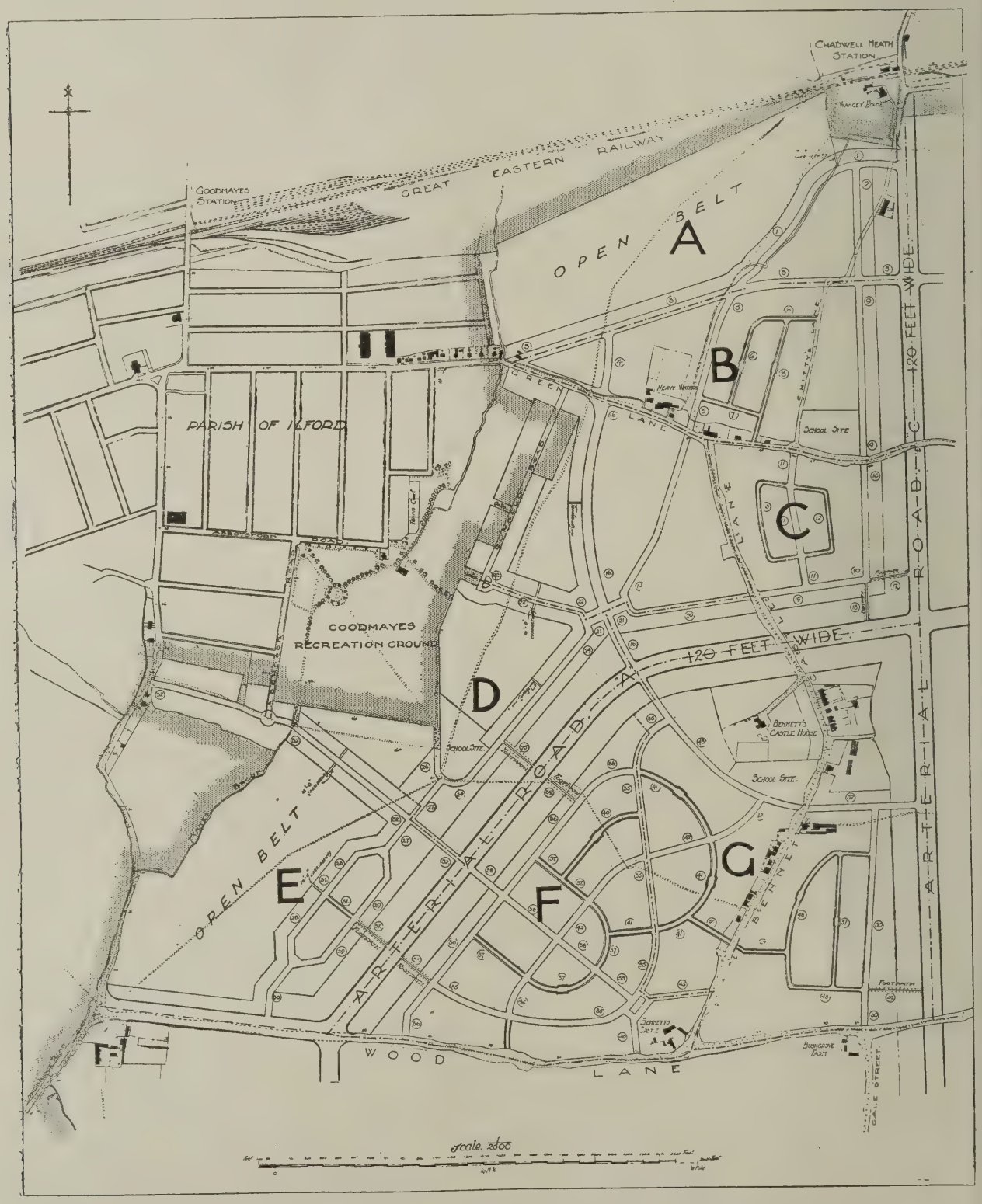
The L.C.C. Housing Estate at Becontree

THE London County Council, after carefully considering the housing needs of the County of London as a whole, have adopted a comprehensive scheme. The work to be carried out might be conveniently divided under the following heads:—

(1) Development of existing estates.
(2) Acquisition of new estates.
(3) Clearance of insanitary areas.
(4) Improvement of unhealthy dwellings.

The scheme provides for the erection, within a period of five years from the date of approval by the Ministry of Health, of not less than 29,000 new dwellings, of which, if possible, no fewer than 10,000 should be provided within the first two years after such approval. The 29,000 new houses do not include those to be erected upon the cleared sites of in tary areas, to accommodate 145,000 sons. The scheme also provided immediate steps were to be taken to s the clearance of certain of the wor the insanitary areas containing a po tion estimated at 40,000.

At the same time, enquiries of a ge character were made with regar housing conditions in London. I



L.C.C. BECONTREE ESTATE: PLAN OF SECTION NO. 1, SHOWING DEVELOPMENT ROADS.

to be impossible to arrive at any igures as to the extent to which wding actually obtained, but after investigation the figure of 200,000 nsidered to be a fair estimate.

Cost of Scheme

capital outlay involved was esti- to be between £28,000,000 and ,000, exclusive of the cost of pur- land beyond that actually to be ed. This estimate will, of course, be revised in view of the increased labour and materials since the n of the scheme.

ler to meet the needs of the eastern it was decided to investigate the ty of acquiring land in the district Barking, keeping, as far as pos- ong the lines of the existing rail-

iminary survey was therefore made ying between the road leading from Becontree Heath on the north, Ripple Road on the south, with the of Dagenham on the east. This nprising nearly 3,000 acres, or an about five times that of the City of was eventually scheduled and is rchased by the Council under a ry order confirmed by the of Health. The estate is situated e areas of the Urban Districts of Town and Ilford, and the Rural of Romford.

te consists of fairly flat agricul- nd, with a gradual slope from south, and is well served by exist- which it is proposed to retain, as ossible, together with any other natural features which may be said to enhance the beauty of the district, although the area is practically devoid of features of outstanding character. The general development of the estate necessitates considerable improvement of travelling facilities, and this matter is under consideration.

The area when developed will form a town of considerable extent. In planning and preparing the scheme, comparison has been made with Continental and home towns approximating in size to Becontree, and regard has been had to the aspects of modern town-planning as embodied in schemes such as the rebuilding of San Francisco and the development of Chicago. The estate is being planned as one complete township encircled by a wide boulevard and divided by three main avenues, with a civic centre planned at the junction of these central avenues. The main roads forming the boulevard are to be 120 ft. wide, with two 16 ft. carriageways, and a central reservation of 52 ft. to make provision potentially for a double tramway track. Land for commercial purposes is to be reserved on main roads and other specially selected sites, and provision for industrial areas is made in convenient proximity to the railway. An allocation of land for leasing is also under consideration. It is intended to retain the principal existing roads, and the old moated "Vallance House" will also be preserved.

Railway Service

The estate will be served by the Great Eastern Railway, which skirts the northern boundary (Chadwell Heath Station), and by the Midland, which crosses the estate from east to west. It is expected that new stations at convenient points will be established on this line.

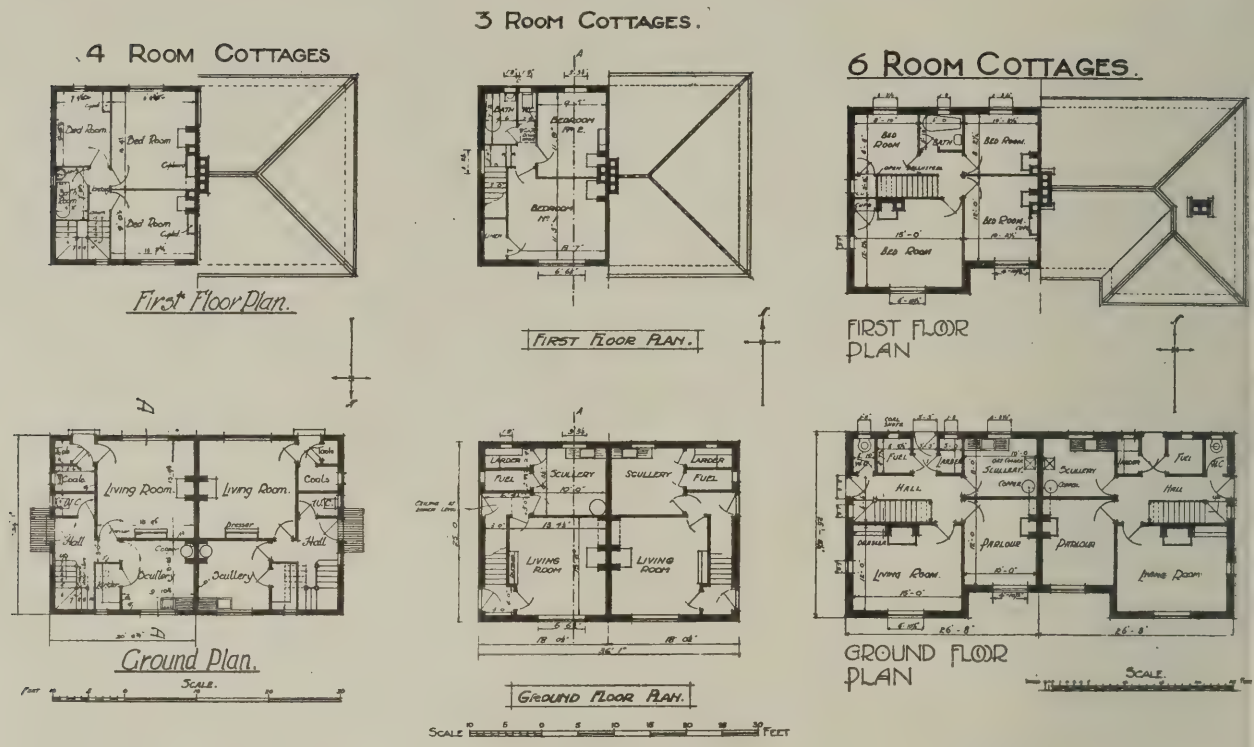
Scope of Lay-out

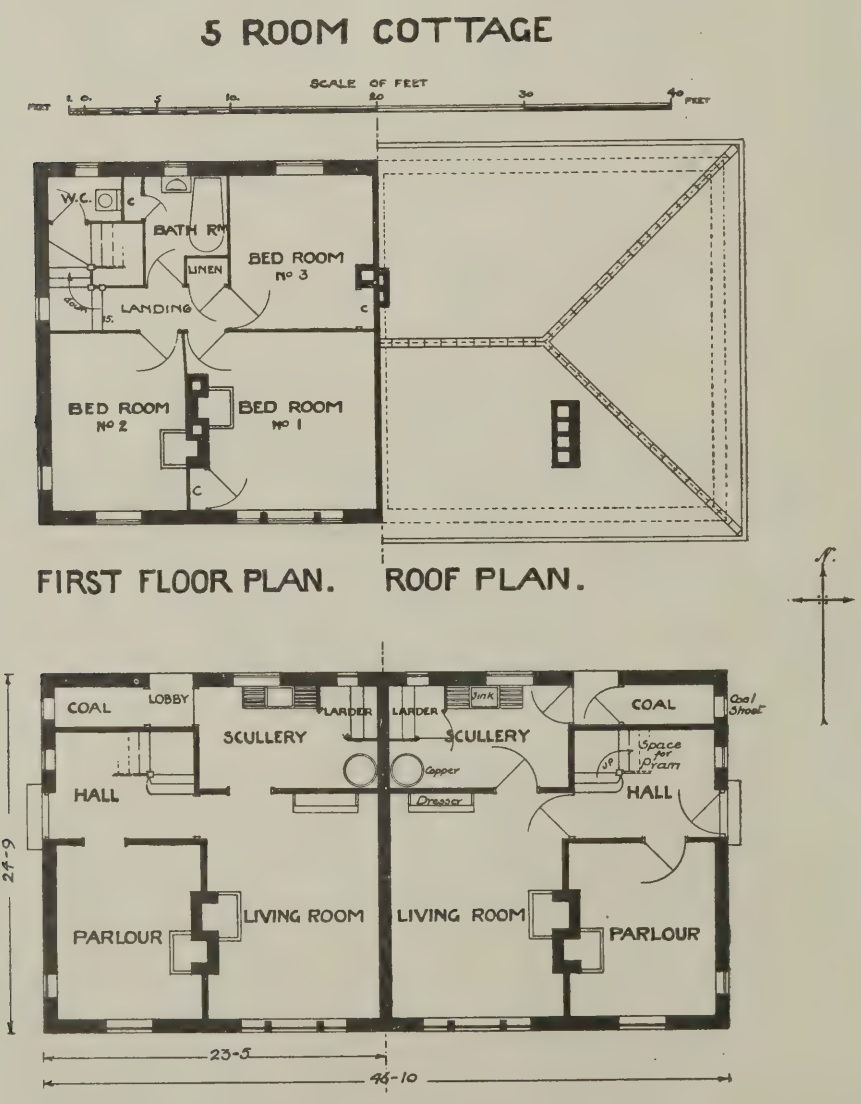
The scheme as at present outlined involves the provision of a central part, and an open belt (including playing fields and allotments). Provision will be made for sites for elementary, secondary, trade, and continuation schools; and sites will also be allocated for churches, fire stations, and such other buildings as are required for the complete development of a town of the magnitude contemplated. It is proposed to erect about 16,000 houses, which will rank for "State Aid," giving accommodation for approximately 80,000 people.

The land between the southern boundary of the estate and the River Thames is low-lying land, which will probably become an industrial area. A corridor road is to be constructed through this area in order to give access to the site from the river and to facilitate the transport of materials. It is proposed to utilise the river as much as possible for purposes of transport. An open belt has been provided to separate the industrial area from the estate.

The development of the whole estate has been entrusted to one master contractor, and work has been commenced on a large scale. The first section to be developed, which is in the north-western corner of the estate, is situated for the greater part within the Ilford district, and is approximately 433 acres in extent. Roads and sewers and houses are under construction, and plans are prepared for the erection of about nearly 3,000 working class cottages

C.C. BECONTREE ESTATE: SECTION NO. 1. PLAN OF SUB-SECTION F., SHOWING DISPOSITION OF HOUSES.





L.C.C. BECONTREE ESTATE: SOME TYPICAL PLANS.

G. TOPHAM FORREST, F.R.I.B.A., F.G.S., ARCHITECT.

on this section, ranging from six- cottages to two- and three-roor Both brick and concrete construct to be adopted, and as much variet sign and disposition as is consiste economical planning will be introc

The cottages will be pleasantly and areas of land reserved at the the gardens for the purposes of allc Open spaces for recreation and gar be provided by open belts, and a park is being planned with three p entrances.

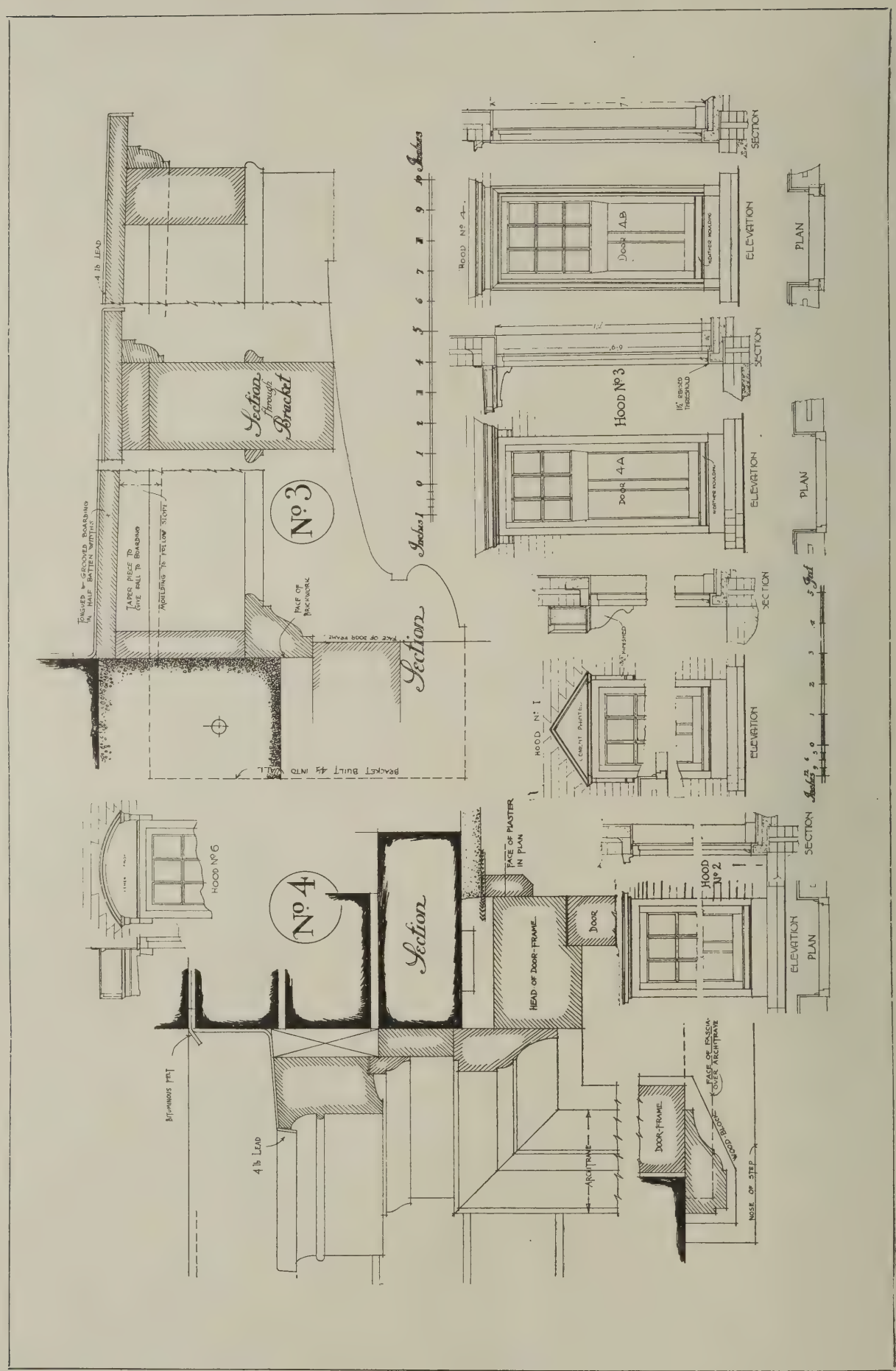
Local or Ward Cent

It is proposed to establish local centres, around which will be grou smaller administrative building markets, etc., necessary to the in development, and to assist local ment. The civic centre, plannec centre of the estate, provides for t important administrative and inst buildings, central markets, etc.

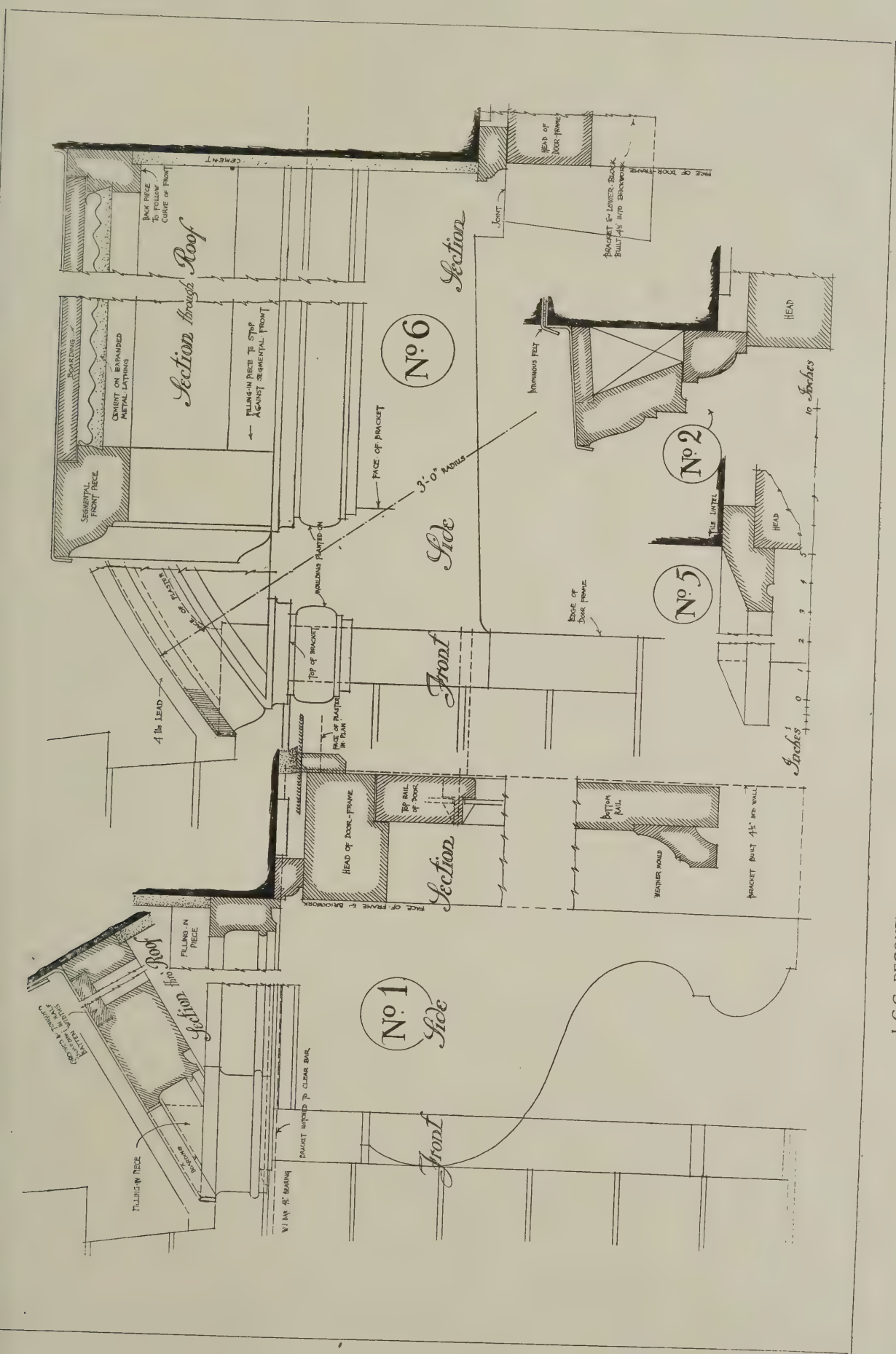
The illustrations show a scheme of lay-out, and also typic and elevations of houses to be er

The negotiations for the acqui the site are being conducted by th cil's Valuer—Mr. Frank Hunt, Engineering works are executed u supervision of the Chief Engin G. W. Humphreys, C.B.E.—who as Administrator of the Council's Development Schemes. The la being designed by Mr. G. Topham F.R.I.B.A., F.G.S., in consultat the Chief Engineer, when neces matters connected with through Mr. Topham Forrest is also re for the design and construction of tages on the estate. Parks, avenues, etc., will be laid out u supervision of the Chief Officer Parks Department—Brig.-Gen. F C.M.G., C.B.E. The responsil the maintenance and letting of perty and also for the manageme estate devolves upon the Dir Housing—Mr. J. P. Orr, C.S.I., who also advises the Council or connected with housing.

L.C.C. BECONTREE ESTATE: SOME TYPICAL STREET ELEVATIONS. G. TOPHAM FORREST, F.R.I.B.A., F.G.S., ARCHITECT.



L.C.C. BECONTREE ESTATE: DETAILS OF SOME TYPICAL HOODS TO EXTERNAL DOORS.



L.C.C. BECONTREE ESTATE: DETAILS OF TYPICAL HOOD TO EXTERNAL DOORWAYS,
G. TOPHAM FORREST, F.R.I.B.A., F.G.S., ARCHITECT.

The Servantless Bungalow as I Would Have

By AN UNDOMESTICATED WOMAN

THE type of woman whom we call "domesticated" has not, as a general rule, the faintest interest in, or use for, labour-saving arrangements. She revels in the use of broom and dustpan, and finds happiness in the kitchen; while the methods employed by her mother and grandmother before her give her every satisfaction.

The changing conditions of the last few years have, however, evolved a generation of women who are ruefully, resentfully even, resigning themselves to a servantless existence, and though determined to have the household machinery working as smoothly as it has ever done, they have no intention of spending their days in domestic drudgery, realising that skilful planning and ingenious appliances can, to a great extent, obviate manual labour.

The average intelligent woman knows exactly what results she wishes to achieve, but lacks the technical knowledge which will show her the means to be employed; and she relies on the architect so to arrange the planning and equipment of her house that her toil is reduced to a minimum, without any loss of life's little comforts and refinements.

Bungalows will evidently be a favourite form of habitation for the next few years, and a few suggestions, therefore, as to the probable requirements of the lady of the house may not come altogether amiss.

The woman who has to combine in her own person the functions of cook, house-parlourmaid, and laundress is apt to spend most of the day on her feet in an interminable struggle with cold and darkness, dirt and hunger, the four great foes to her domestic happiness. A vast amount of unnecessary exercise can be saved her by the architect who minimises passage-room, and so designs the relative positions of the working and residential parts of the bungalow, that daily requirements are easily accessible, and the carrying to and fro of crockery, fuel, and food is rendered to a great extent unnecessary.

Heating and Lighting

Heating and lighting arrangements offer a wide choice, and some people advocate the total elimination of open fires, substituting gas stoves or electric radiators, or installing a central heating system; but the majority would, we believe, decline, for any labour-saving considerations whatsoever, to forgo the comfort of an old-fashioned open grate in the principal sitting-room at least. In any case, a central heating system is a most desirable arrangement, and if from the same boiler a constant supply of hot water can be obtained at all hours of the day and night, and is laid on to every bedroom, every part of the housewife's labour will be considerably lightened.

Lighting is, in country districts, a matter of perennial difficulty, and even in towns a supply of electricity does not always mean perfect illumination. It cannot be too strongly emphasised that the ordinary fitting hanging from the ceiling or projecting from the wall is quite insufficient for reading or working, even in small rooms, and plenty of plugs should be provided, to which table lamps may be attached.

The countryman is usually dependent on oil and candles, and here the architect can help him little, except by providing a shed with an impervious floor in which the inevitable paraffin cask can be safely stored. For those that can afford it, a small oil engine, which can be run by an intelligent amateur, and will generate enough electricity to light the average-sized bungalow, is a wise investment. Oil lamps involve endless and unpleasant work, and the initial cost of the engine, which should not greatly exceed £100, is amply repaid by the amount of labour saved.

When gas is the only available mode of lighting, fittings should be very carefully placed and chosen, with a view to obtaining as soft an illumination as possible. The type that can be switched on and off from the doorway is most acceptable, obviating the evening routine of "lighting-up."

Cleaning

With the bungalow warmed and lighted throughout, and hot water in constant supply, there is not much left for the servantless woman in her capacity of housemaid to do. Her chief care will be the daily cleansing of floors and furniture, and an electric vacuum cleaner will relieve her of the greater part of this. There are also several excellent suction sweepers on the market that make their own power as they run, and, failing electricity, one of these can be heartily recommended. For both hygienic and æsthetic reasons polished floors with rugs are greatly to be preferred to the old drugget-cum-carpet arrangement. Parquet, though delightful, is a quite superfluous luxury, as charming effects can be obtained with a good boarded floor, treated with a clear stain and wax polished by hand. Walls may be finished with washable distemper, or panelled with one of the various patent boards now obtainable, and ceilings that display a minimum of plaster moulding will be welcomed by the wielder of the cobweb-brush.

Paint is a matter of individual choice, and, though dark doors and wainscots require no washing, the dainty cleanliness of a good white enamel is, in the opinion of many, ample compensation for the labour it entails.

Much has been written of the merits of built-in furniture, but, were it to become popular, there would be a distinct danger of the loss of that individuality which is a room's chief attraction. Let there be cupboards in abundance, by all means, well equipped with shelves and hanging accommodation, but, as regards other pieces, few women will grudge the toil of dusting over and under an old favourite, or cavil at the floor space it occupies. Those, however, who are starting bungalow life without possessions may prefer to be spared the trouble of selecting dressing tables, chests of drawers, and bookcases, and will gladly avail themselves of some of the built-in fitments of which designs are constantly published.

There is little pleasure to be derived from a bath and bath-room unless both are immaculately kept, and that means the expenditure of much elbow-grease on taps, walls, and the bath itself. Nothing looks better than gleaming brass or nickel, but the constant polishing req must be considered, and in many the white enamelled fittings will be ferred. Glass shelves and towel rail desirable additions, and an inventor perhaps arise to construct the taps t selves of the same attractive mat Walls should, when possible, be tiled a good porcelain bath is an econon the long run. Where financial con ations are not uppermost a combined tory and cloak-room just inside the door will prove very useful, espe where there are children. Here boots and damp clothes can be cha with great advantage to the floors furniture throughout the house; and hot air cupboard is also provided, d operations can take place on the spo ample supply of rain water is a acceptable, and if sufficient can b lected it should be laid on to the bath at least.

The kitchen is the self-depe woman's workshop, and shoul small, compact, and washabl every part, and contain only bare essentials for her work. tiled walls, composition floor, an closed shelves and dresser, there is opportunity for dirt to collect, and if ing is carried out by gas or electrici kitchen can be kept as delicately cl a drawing-room. Its position sho so designed as to communicate by or doorway with the dining-room, separate well-ventilated larder always be provided, even if it only the form of an outside cupboard acc from within.

Cooking

It need hardly be said that th fashioned range is an abomination no enlightened woman would en except as a last resort, and if, as h viously been suggested, the hot wat ply is independent of the kitchen a ments, an oil stove and oven, used junction with some form of h cooker, will be found amply suffici the needs of the average household or electricity, where they are av reduce the labours of the cook co ably, and the use of the latter greatly popularised when a s heating circuit forms a pa every domestic installation. A addition to the ordinary sink, a porcelain-lined one, in which wash washing-up can be done, is a grea and racks for draining cups, plat glasses should be in close proximity

An enclosed kitchen cabinet is fo reason to be recommended. It co cupboard, table, and saucepan keeps everything dustproof and d obviates the incessant journeyings fro in which so much time is waste

Laundry contrivances must not gotten, and unless the bunga equipped with an electric washer a is generally required. It should sible to arrange for its accommod the boiler-house, which will proba be used for knife-and boot-cleani

Labour-saving devices are incre number and ingenuity every day tendency towards over-elaboration all costs be avoided.

The Design, Planning, and Construction of Bungalows

By KENNETH M. B. CROSS, B.A.Cantab,

HE word bungalow, which owes its origin to the Bengalee *bangla*, was applied first to the small houses or ges consisting of single floor struc- characterised by thatched or tiled and wide verandahs, which were ied chiefly by Europeans, and, as a formed the officers' quarters in can- ents situated in the interior districts dia. *Bangla* probably denotes the bourhood in that country in which orm of building first became popular gst Europeans; and, notwithstanding ntiquity of the cottage-like structure ich the word refers, its entry into the sh language must be of fairly recent In this connection it is of interest e that although from the earliest ages single-storied buildings in direct simplicity have proved to be ost popular form of dwellings, yet erentiate them we have imported an term which we cannot have dis- d before the time of the East India any in the eighteenth century. But when reviewing the long vista torical developments in the evolu- f our domestic architecture, one that only within the compara- recent period of a few centuries eople begun to abandon the Homeric f sleeping round the fire, or the not pleasant mediæval custom of going in a cupboard in favour of the more c if more prosaic resting-place pro- y the modern bedroom. Be this as something more than antiquity of nay be justly claimed for buildings bungalow type, and there is no hat where only very limited resi- accommodation is required these es can be designed in a manner vill enable them to rank among the onvenient, the most comfortable, most beautiful examples of house ture.

eneral Considerations

eneral utilitarian grounds there is tion that the single-storied house, rooms opening from a central hall , presents many advantages over es of plan, from the fact that con- labour is saved in domestic ser- h in carrying and cleaning, and use, by the elimination of the cold ighty staircase and landing, the of maintaining an even tempera- ughout the whole house is greatly l. Aesthetically, the long, low, l lines of the external elevations, ithout too wide a stretch of the on, might make us mindful of ldings for which ancient Greece s, and the satisfying proportions nd wall space, combine in the of a sound basis for expressive ral treatment. And here it emphasised too strongly that, in of this nature, when the exter- depends to so great an extent dominating proportions produced by a few outstanding lines, the elevations should be treated with the utmost simplicity and restraint. It is only thus that the quiet dignity desirable in a dwelling-place can be obtained in a house of small dimensions.

There is, it appears, at the present time a popular misconception as to the possibilities in bungalow building, due in all probability to the origin of the word itself, and the idea is prevalent that a bungalow is essentially a makeshift, temporary, and elastic kind of structure which will contain a large number of warm, dry, well-lighted rooms, and which it will cost only a few pounds to erect.

Muddle-headed thinking ascribes to it a position somewhere in the nature of things akin to the chicken run or the army hut, and it is true enough that in recent times building firms have supplied bungalows of this type "complete" at inclusive charges; and it is owing to the insidious activities of these gentlemen that the man in the street has formed his ideas as to the cheapness, elasticity, and miraculous nature of bungalows.

But unfortunately cheapness is not one of the advantages that can be claimed for them when built as permanent dwellings; for the cost of the extra foundations and of the extra roofing which they require more than outweighs the cost of the staircase and landing necessary in a two-storied house providing the same accommodation. Under exceptional circumstances a small saving might be effected by adopting the single-floor building, where, for instance, roofing materials happened to be cheap, or where it was a matter of some difficulty, owing to the nature of the materials employed in their construction, to carry up the walls beyond a certain height, without endangering their stability. The use of "Pisé de terre," or of certain forms of concrete construction, would seem to indicate that in certain districts low buildings are more appropriate than those of two or more stories in height.

Before the catastrophe of 1914 bungalows were chiefly used as week-end holiday resorts during the summer months, and were often closed for the remainder of the year. But there is at the present time a very gratifying tendency towards a greater simplification of living urged by economic necessity which compels people to use the bungalow as a permanent residence, and this calls for greater effort on the part of architects and a more implicit faith on the part of clients in the judgment of their professional advisers in order that good, sound, permanent, well lighted, sanitary and efficient single-storied houses may be obtained to the lasting benefit of the community. Simplicity and directness in planning and design, the avoidance of all apparent fussiness, all cultivation of the quaint, the picturesque, the bizarre, are fundamental architectural essentials from the academic and scientific point of view, and there is in the opinion of the writer no reason why buildings as unpretentious as the four or five-roomed single-storey house should not be treated architecturally, for it is in buildings of this nature, where space is limited, in which the financial question predominates, that economical and straightforward planning becomes an item of transcendent importance. Unfortunately it has been the common practice during the era through which we have just passed to ignore these cardinal essentials in small buildings, and plans have been thrown together in a most haphazard and amateurish fashion with a careless prodigality which we can no longer afford. Tortuous living-rooms of all shapes and sizes, bedrooms like passages, and corridors like coal-holes, glossed over as they may be by the arid and angular makeshifts of "cosy-cornerdom," or the draught-producing ingle nook, must be swept aside for ever.

Types of Plan

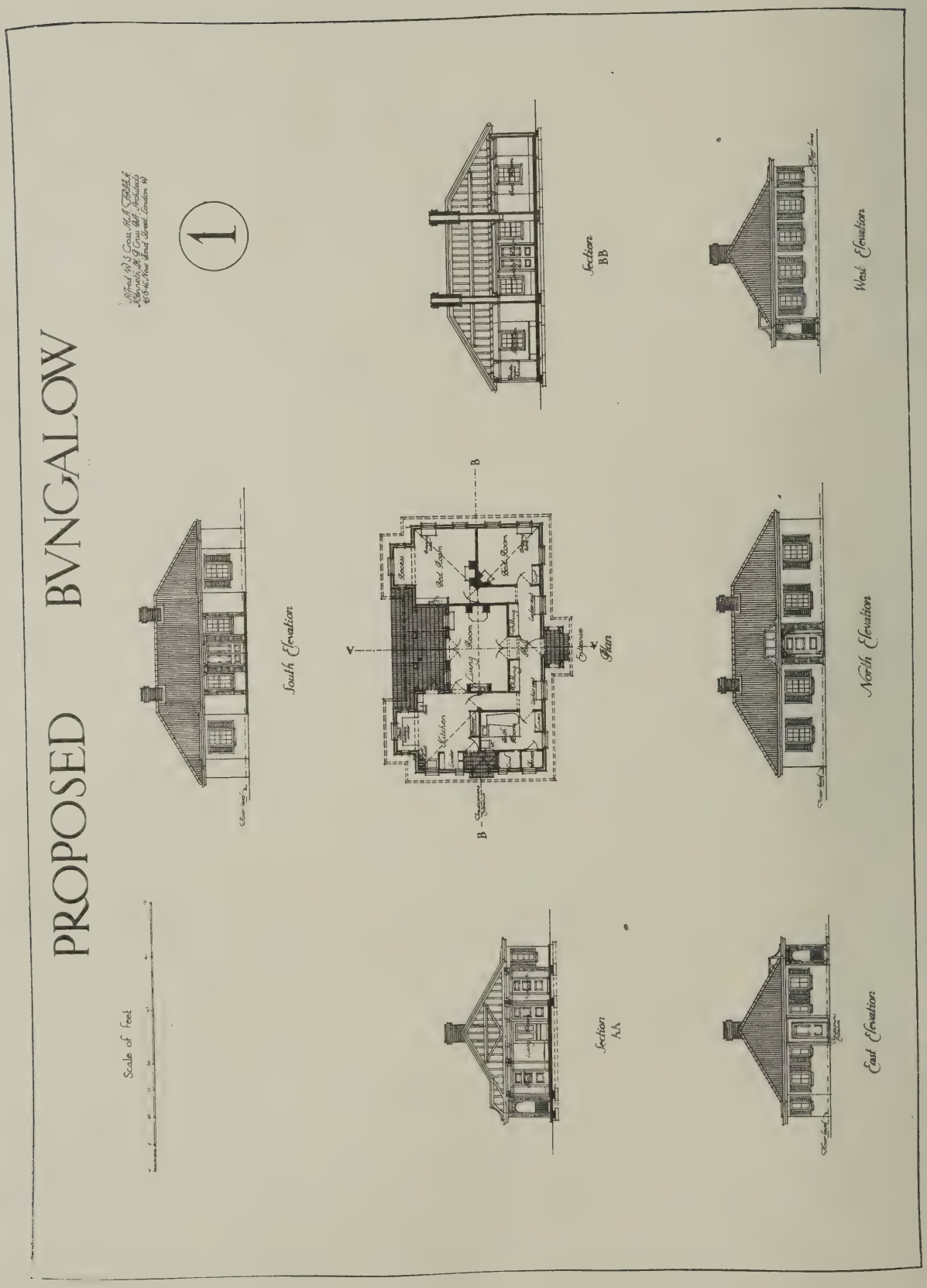
In cases where an entrance hall is to be provided, it will be found convenient to use it as a central feature in the plan around which all the other rooms are grouped, and, whilst it is difficult to generalise in a matter of this kind, it would seem that in most cases an oblong building, with or without projections, having the entrance door and hall in the centre of the longer side, will produce the most satisfactory result. In Fig. 1 is illustrated an example of this system of planning, in which provision is made for one living-room, kitchen, and three bedrooms, with the addition of a bathroom and the usual offices grouped round a central entrance lobby. The doors to the living-room are half glazed, with the result that on entering the house a vista may be obtained through the hall, the living room, and the verandah, into the garden beyond. The kitchen has a separate entrance.

In Fig. 2 is seen a smaller bungalow planned on the same principle, providing a hall, two living-rooms, two bedrooms, a kitchen, and a verandah; provision is also made for a box-room in the roof, with access by means of a step-ladder fitted in a lobby near the coal store. In this case a kitchen door was omitted and a shoot for refuse arranged in connection with the kitchen and the sanitary dustbin.

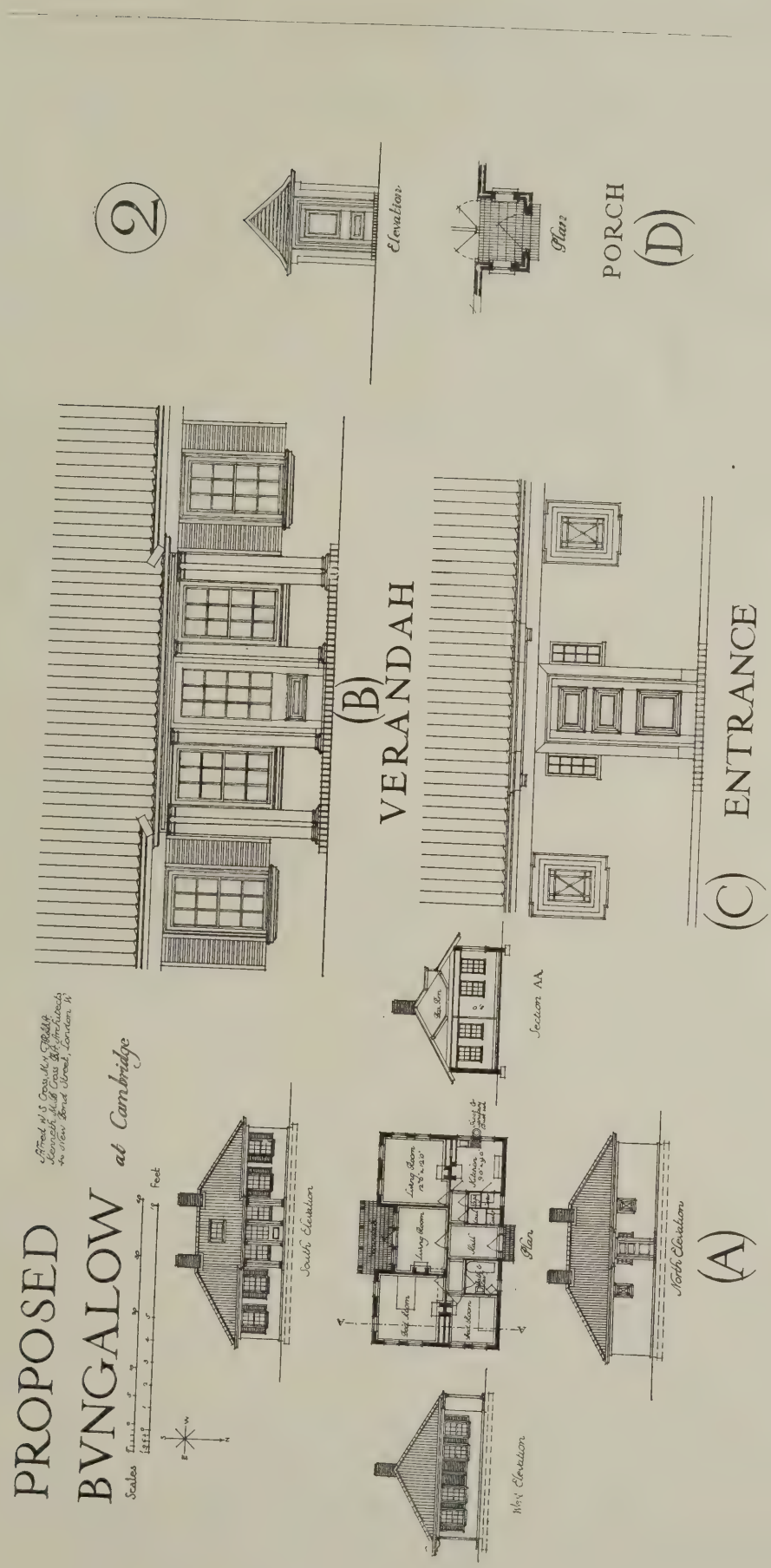
A bungalow of the four-room type is shown in Fig. 3, in which direct access is obtained to the hall-living-room, and thence to the living-room proper, with its wide spreading bay window, large bedroom, kitchen, and other offices respectively. The hall-living-room is octagonal in shape, the angle fireplace on the right hand side being balanced by a series of built-in cupboards on the left. There is direct access from the living-room to the kitchen, from which the coal store, larder, pantry, and tradesmen's entrance are all immediately accessible. The bedroom, lavatory, and bathroom are grouped together on the west side of the house.

It will be noticed in the above-mentioned plans that all chimney flues have been concentrated and carried up in two symmetrically placed brick stacks, and that an attempt has been made to introduce an element of simplicity into the designs in

illustrations for the accompanying taken from the working drawings of V. S. Cross and K. M. B. Cross, Archi- don.



A. W. S. CROSS, M.A., F.R.I.B.A., AND KENNETH M. B. CROSS, B.A., ARCHITECTS.



PROPOSED BUNGALOW AT CAMBRIDGE. A. W. S. CROSS, M.A., F.R.I.B.A., AND KENNETH M. B. CROSS, B.A., ARCHITECTS.

order to avoid nooks, crannies, roof cutting, and the hundred and one constructional difficulties which irregular planning necessitates. There is also no "back elevation"; each elevation is complete in itself and at the same time each front bears some relation to the neighbouring façade.

Government Housing Scheme

For general reasons of economy, many of which have been discussed already, it will be seen that bungalows do not present the most satisfactory type of building for housing schemes, unless the circumstances are of an exceptional nature. The ground area occupied by a pair of houses built on the bungalow system is double that required for a two-storied house with the same accommodation, and this fact, of course, prevents their adoption in neighbourhoods where there is any semblance of land shortage or of housing congestion. There are occasions, however, as in the case of small holdings in agricultural districts, when it will be found that owing to its greater serviceability, adaptability, and convenience, the bungalow is to be preferred above any other type of building.

In the Local Government Board Manual (1919), a dwelling of the bungalow type is illustrated, No. 10 (class A2), in which provision is made for two bedrooms and one living-room, a small scullery, bathroom, w.c., and coal store. The dwellings are semi-detached, and the plan, which is one of the best of those emanating from the precincts of departmental officialdom, albeit, it has one small blemish in the form of a badly placed internal lobby, detracting from the size and general appearance of the living-room, is worthy of our heartiest commendation.

The Treatment of the Interior

If, as is often the case in cheaper types of plan, the entrance to the bungalow is by way of the living-room, it is of course essential to the warmth and comfort of the inmates to provide a small entrance porch or lobby with an additional entrance door. The porch can be well lighted from the sides, and its light-coloured plastered walls and floor of paving bricks or large quarry tiles combine to make a convenient, cheerful, and inexpensive approach to the living-room (Fig. 2, D). It is, however, preferable, wherever possible, to enter the house by means of a small central hall, the front door of which is embellished either with a simple overhanging hood or with an open porch of plain wood trellis-work painted green after the picturesque fashion of a hundred years ago. Fig. 4 illustrates an arched trellis porch of this nature, the strong geometrical lines of which stand out in sharp silhouette against the whitened rendering of the main wall. In this example the small concave curved roof is covered with copper treated with acid, and the front door, which has bolection moulded and raised splayed panels, is of mahogany hung in a painted white frame.

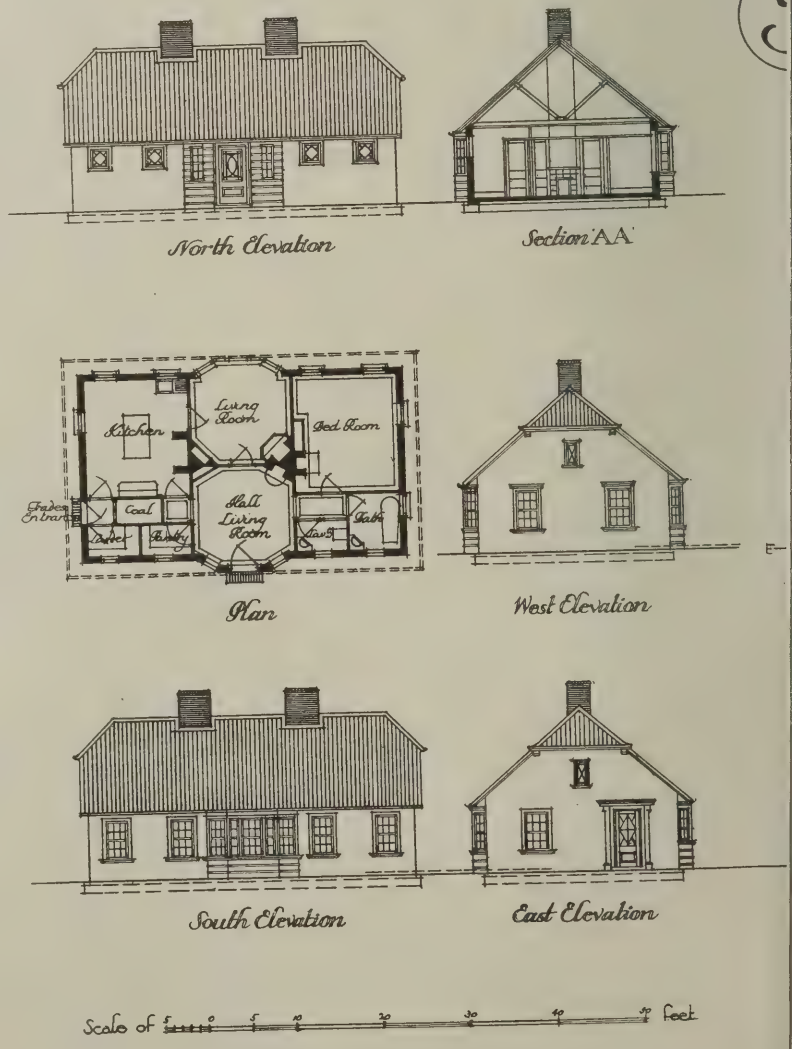
As the hall provides the principal access to all the important rooms in the building, it is of the greatest importance that it should be well lighted; and if, for lack of space, or for reasons dictated by the requirements of the external design, it is impossible or undesirable to arrange for windows to the hall, a fanlight over the door will sometimes serve its purpose, or the Continental expedient of a half glazed front door (Fig. 6, C) may be adopted. But whatever method of lighting is used, it may be taken as a general rule that the bungalow hall too frequently errs on the side of darkness, and this at once determines the scheme of wall decoration. If distemper is used, it should be very light in tone; if paper is preferred, it will be found that a plain white lining paper laid in two thicknesses produces a good result; all painted woodwork should be painted white, but the question of the desirability of paint in general is discussed in another part of this article. With regard to floors, the Dutch custom of using marble tiling in geometrical patterns, either in white (Italian bachiotto) and black, or white and green (Italian cippolino), may well be adopted where it can be afforded. A cheap substitute is found in large red quarry tiles or red bricks, or the ordinary wood block or batten flooring; oak battens make an excellent floor, and if left untreated and unpolished they can be washed in the ordinary way. In cases where the entire floor area of the bungalow is covered with concrete an economical floor may be contrived by fitting a layer of cork carpet laid in mastic direct on the concrete in all the rooms.

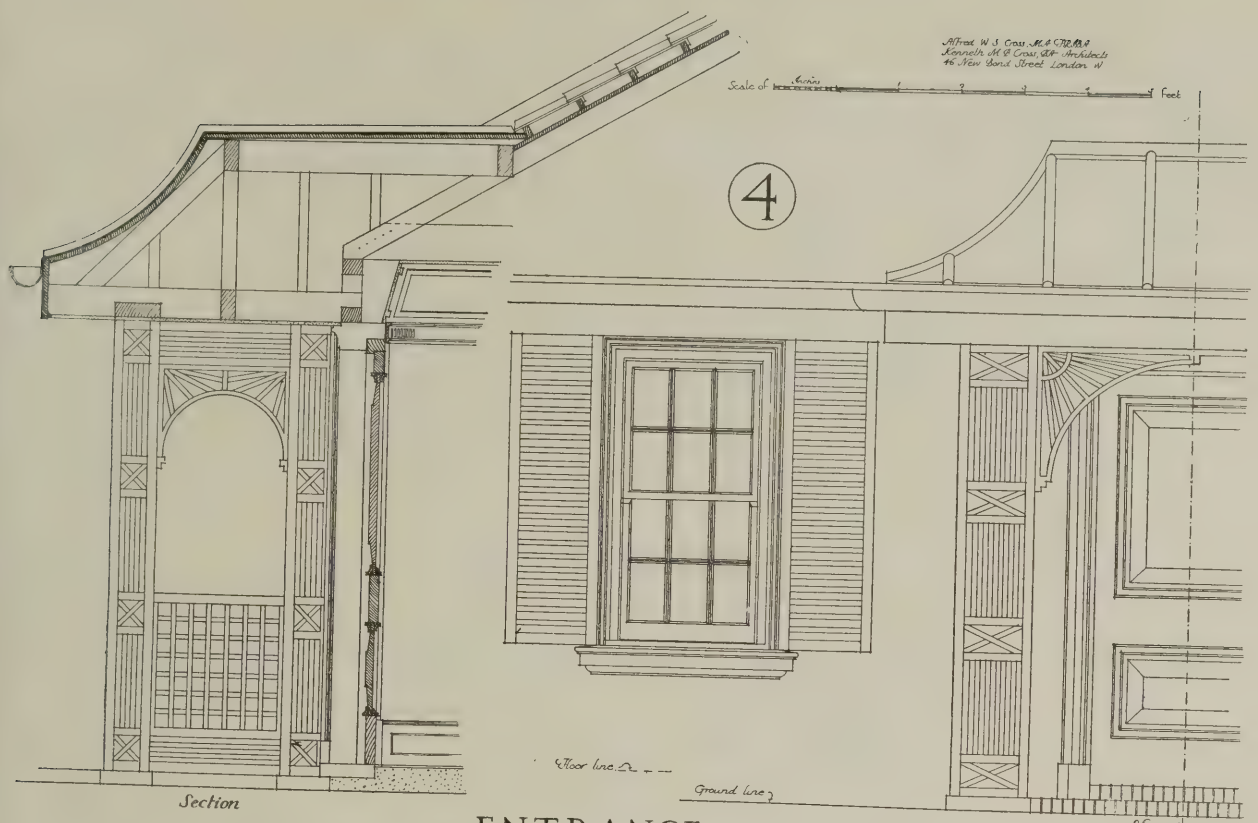
If a small hanging cupboard for coats and hats, with a locker seat or similar contrivance for boots, can be planned in close proximity to the entrance door it will be found a great convenience. And a well-lighted and ventilated lobby arranged for this purpose will prove to be a much appreciated luxury for most buildings of the bungalow type (Fig. 2, A).

Living-room

The old Victorian red plush ar curtain fetish of dining room and d room for small houses is fortunatel ing, and the idea of a living room planting it. In the first place it i essential for the living-room to b the kitchen, and, if possible, onl rated from the latter by a division so that either by direct access, or by of a service hatch concealed in a c in the dining-room, plates and dish be speedily and conveniently tran from the kitchen to the table (Fig

Plain oak boarded flooring with coloured distempered walls, or plai of light colour with simply moulde ing boards, or chamfered or fillets, large panel doors, and white-washed plaster ceiling with a treated, not, as is customary, as the ceiling, but more logically, as the walls, would combine to pro quiet setting for a tastefully f room for general use. Where c or bookcases are required, they s built in as permanent fittings, in avoid the inevitable dust traps to at the top of movable pieces of f and the illustration (Fig. 6, B) combined bookcase and cupboard nature with Chippendale sashing glazed upper part. A suggested t for the living-room fireplace, for e or log fires, is illustrated in Fig in which the chimney-piece is bu slabs of Italian marble on a raise



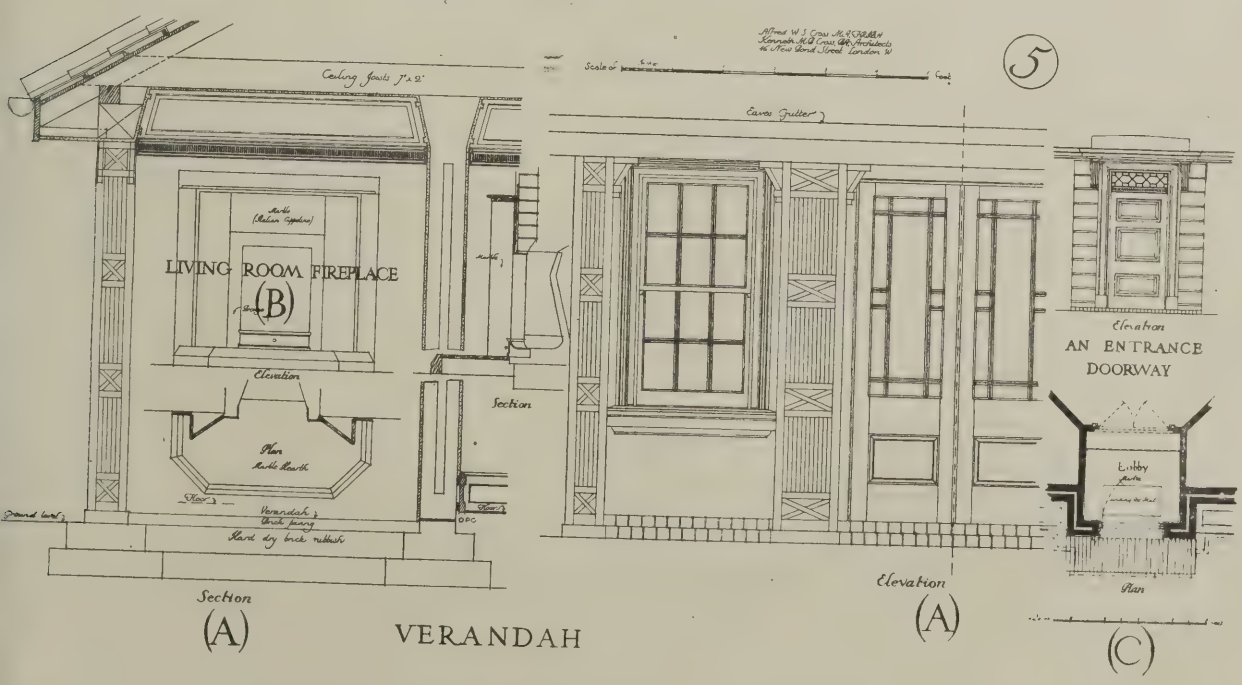


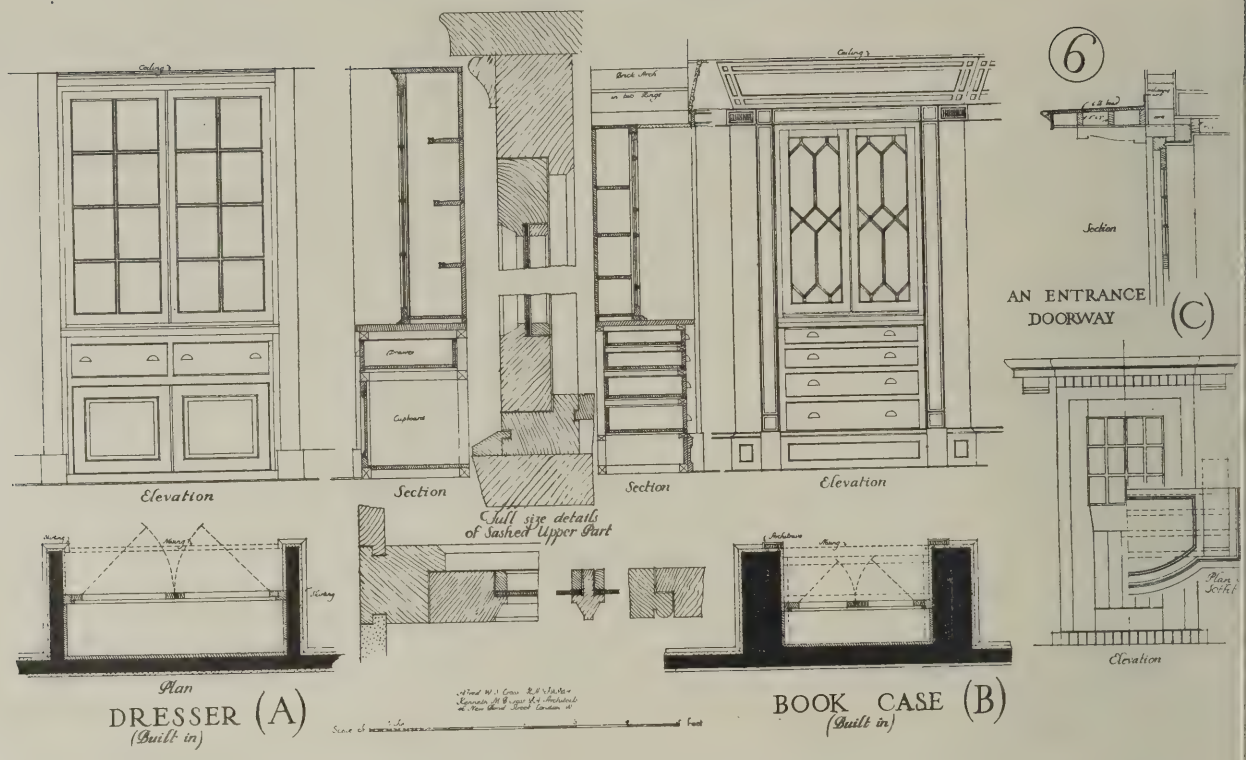
ENTRANCE PORCH

ı. Another and more economical ıent, which, however, does not offer lvantages of an impervious surface, wn in Fig. 7 (C), where a bold gany moulded architrave surrounds a v marble strip which in turn encloses ble row of dull glazed white tiles, ng on a cast-bronze or steel frame l round the fire opening. In the design the mantel-shelf, which often es a mere souvenir and dust-attract- perfluity, is omitted. An important which is often overlooked in modern is the avoidance of the feeling of sness in the room by keeping the ıd window heads in line and uniting horizontally by means of a picture rail, which thus forms a continuous unbroken feature round the entire circuit of the room.

In Fig. 2 (A) is illustrated a somewhat unusual type of plan in which two living-rooms are provided in accordance with the special requirements of the client, and in this case the larger room adjacent to the kitchen, with which it is connected by means of a serving hatch, will be used for meals and general purposes; while the smaller room in a central position, with access to the verandah, and commanding a good view of the garden, is planned for use as a library, or as it is known, less euphoniously but not inappropriately, in America as a "den." One of the most difficult problems at the present time is the treatment of joinery details in small houses, and owing to the high cost of white wood and of the periodical re-painting it requires, it is a real and lasting economy to incur the slightly increased initial expenditure involved by the use of unpainted hard-wood joinery. Having regard to the present inflated prices of deal, the small additional outlay necessitated by the use of hard wood is likely to be repaid to the provident house-builder by the total elimination of the otherwise subsequent recurring cost of painting.

Sash windows are used in all the designs illustrated, not only for reasons of external design, but because they present many ad-





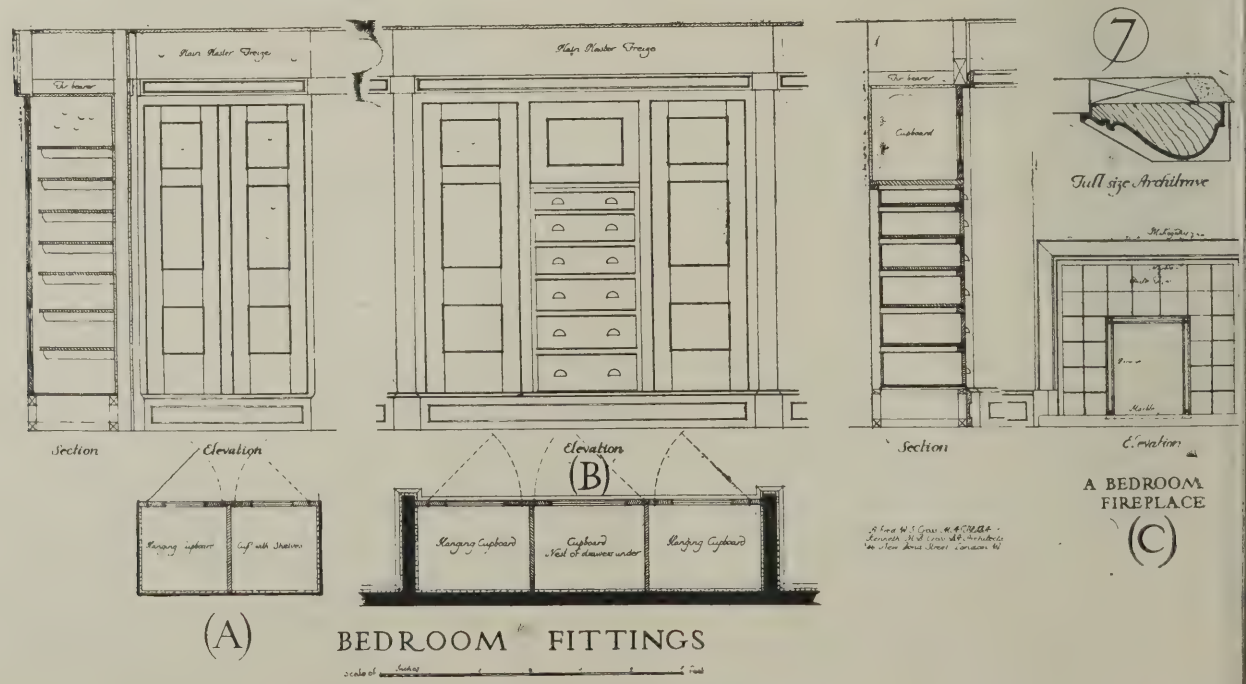
vantages over casements, whether of metal or of wood. Lead lights are, of course, still very popular on account of their picturesque and old-world appearance—few suburban residents have quite forgotten the baronial hall—but in the almost endless repetition of cheapjack mediævalism they defeat their own object, and thus are characteristic only of the present day. Sash windows simplify the problem of ventilation, effectively exclude the heaviest downpour of driving rain, can be easily cleaned, and, beyond all, admit of the use of external shutters, which are most valuable adjuncts to houses of this kind.

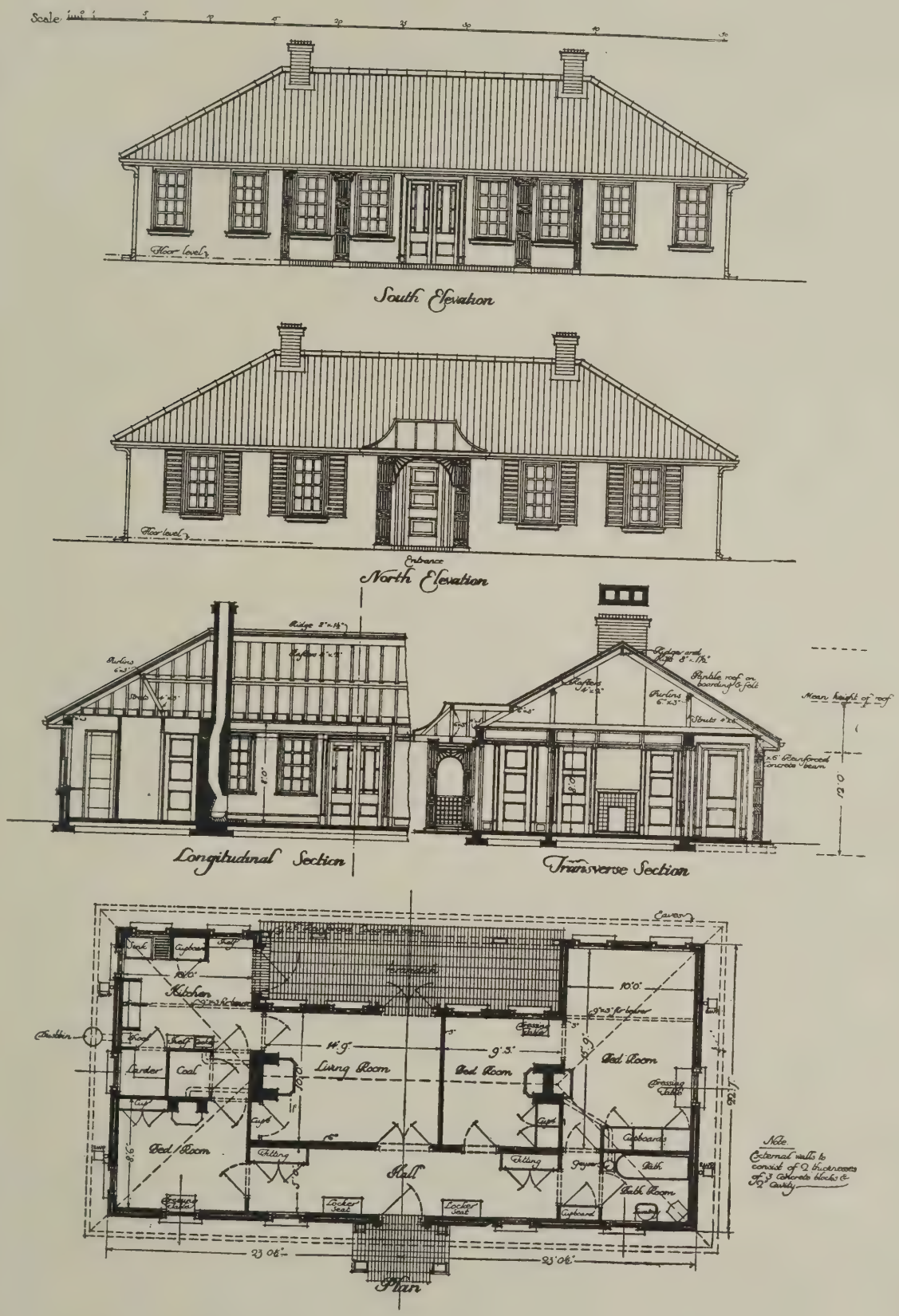
Bedrooms

It is undoubtedly most important both on grounds of hygiene and practical utility that bedrooms should have separate entrances from a lobby or central hall, and not be approached through the living-room. In times of illness especially this question of the bedroom approach becomes acute, and it is a matter of considerable surprise that among the plans published by the Board of Agriculture and Fisheries (H.M. Stationery Office, 1914) for model dwellings there should be one for a bungalow in which the architect appears to have taken every precaution to enable the living-room to form a convenient passage-way to any or all of the three bedrooms in the house (Design No. 2, p. 46). In the descriptive matter the author claims that his object was "to secure a comfortable and convenient living-room"! The price of the working drawings is stated to be "1s., and of the specification 1d." One shilling does not appear to be an excessive charge for the working d although, perhaps, after all, it is might fairly well re-imburse the for any skilled work he has bestow the plan.

Fixed lavatory basins, which great labour-saving value, sho economy in plumbing, be placed outside wall; in some cases wh are only one or possibly two bed lavatory basin fitted in the bath-r be sufficient.

Fig. 7 (A) shows a working for a small hanging cupboard, tc in as a bedroom fixture, and cc a nest of shelves and a looking-gl on to the inside of one of the foldi A more elaborate combination of t ing cupboards and a nest of dr varying depths is shown in Fig. 7





BUNGALOW AT BYFLEET, SURREY. A. W. S. CROSS, M.A., F.R.I.B.A., AND KENNETH M. B. CROSS, B.A., ARCHITECTS.

(See Page 722.)

it will be noticed that in each case the built-in fittings are carried up to the level of the ceiling in order to prevent the collecting of dust. These cupboards are of sufficient depth to accommodate a row of coat hangers placed at right angles to the cupboard opening, an arrangement that adds immensely to the "hanging capacity" of the fitting. Convenient combined dressing-tables and chests of drawers may be fitted in the window recesses, and chamfered three-panel doors, with skirting fillets and continuous picture rails round the plain distempered walls, complete the bedroom design. The remarks on the desirability of using unpainted hardwood, and so dispensing with perishable paintwork, which have been made with reference to living-rooms apply with equal force to the bedroom fittings.

Kitchen-Scullery

In most bungalows it will probably be found convenient to instal a gas stove or some other patent cooking arrangement in order to eliminate the costly and cumbersome kitchen range, and the wall surface in the immediate vicinity of the stove should be covered with white glazed tiles to a height of about 4 ft. 6 in. An efficient system of heating and hot water supply may be obtained by means of a boiler and a small anthracite or coke stove, with circulating pipes round the building.

The dresser, which is preferably made of oak, should be conveniently near to the serving hatch to the dining-room, and should have glazed doors in the upper part (Fig. 6, A). The sink, with waste stopper, to enable it to be filled with water for washing purposes, should be fitted with draining boards of teak, and spacious shelves and plate racks should be provided. All walls should be covered with white glazed tiles or other similar impervious surface. In Fig. 2 (A), owing to the fact that there is no external door to the kitchen, a shoot for refuse has been arranged near to the sink in connection with the sanitary dustbin. This shoot is formed of 9 in. salt-glazed earthenware pipes, and fitted internally with a hopper.

Red quarry tiles make a good kitchen floor, and it is desirable to dispense with all mouldings, to round all corners and excrescences, and to ensure that all surfaces are washable.

Bathroom

Where no central hot water supply is installed sufficient hot water may sometimes be obtained by means of a geyser, though this necessitates an extract flue for the gas fumes. The floor and walls of the bathroom should be finished with impervious materials, the latter being covered with white tiles and the former with white tiles or terrazzo or similar material. A heated linen cupboard constructed in hardwood should also be provided.

Verandahs

One of the most prominent features in a bungalow is a verandah, and this should be so planned as to be readily accessible from the living-room to enable it to be used for meals during the summer months. With this object in view it is desirable to avoid the long narrow corridor-like type of verandah plan, and wherever possible to make its general proportions more suggestive of an open-air room in which there is sufficient space for a small table and chairs.

External Elevations

In the treatment of the external elevations the locality in which the building is required and the materials available must largely influence the design. The building shown in Fig. 1 (see page 716) is constructed with hollow walls built in two thicknesses of concrete blocks, and the low-pitched roof is covered with pan tiles. The saving in cost in using a roof of low-pitch in comparison with one of steeper slope is considerable, though in many cases it will be seen that highly-pitched roofs produce a very pleasing effect when applied to low buildings.

The bungalow illustrated in Fig. 2 was designed to be built of chalk quarried near the site, hardened and rendered in cement. Chimney stacks if they are well proportioned and treated with restraint are features of distinct value in bungalow design. In the front elevation the entrance door may be made the centre of interest in the composition and suitably accentuated in contrast with the severely simple treatment of the remainder of the front. The garden elevation usually has the verandah as its predominant feature, and it should be so treated as to appear architectural, to convey the impression that it is an integral part of the building, which is as essential to the house as the wall itself. Fig. 5 (A) illustrates a trellis-work treatment for a verandah which elaborates the idea suggested in the front entrance porch to the same building, and Fig. 2 (B) shows another treatment of American Colonial influence, consisting of simple attenuated Doric columns with a low entablature painted white.

Whilst no efficacious rules can be said to apply to a question as individual and as personal as that of design, it must be remembered that the judgment of posterity upon the life and habits of this age will be based not only upon the vulgar confectionery of our mock magnificent commercial palaces, but also upon the simple, unpretentious, ordinary dwe houses of the greater part of our peo

Bungalow at Byflee

This bungalow, illustrated on pag has been erected by Mr. Herbert A of Weybridge, from the designs of M A. W. S. Cross, M.A., F.R.I.B.A. K. M. B. Cross, B.A., architects. walls, which are rendered on the o and plastered within, are built wit thicknesses of three-inch concrete with a two-inch cavity. The ro covered with rough dull-coloured par and there are brick chimney stack white Georgian sash windows. Sh painted green, and wood trellis-work same colour forming the porch verandah, complete a design of whi keynote is breadth and simplicity.

Cottage Bungalow

The design illustrated on the op page shows a simple and appro treatment for the cottage-bungalow of habitation, for which there is a co able demand in rural districts. Sp utilised with the utmost economy, t commodation provided within an a no more than 30 ft. sq. comprising a entrance lobby, a living-room, thre rooms, a scullery, larder, bath, an and fuel store.

Cottage Bungalow Devon

This delightful little structure wa for Sir Thos. Tyrwhitt, and is n property of His Royal Highness the of Wales. It is a perfect example *cottage ornée*, revealing the en characteristics of the vernacular of the locality during the final de the eighteenth century. In deta general treatment it offers many tions for the design of modern bun

COTTAGE-BUNGALOW AT TOR ROYAL, DEVON.

he Joseph Rowntree Village Trust.

he Joseph Rowntree Village Trust" n hand forty-eight houses at New vick, their village outside York, and ese some were almost complete when Trust came to the conclusion that eight was inadequate to meet the of the district.

eir architect, Mr. Barry Parker, .B.A., thereupon decided to build a er of brick bungalows to a standard This decision was arrived at after ing the relative cost of labour, and fficulty of getting labour, against the sed amount of material in a bunga- ver a two-storey cottage giving the accommodation.

view was that, by eliminating the se, he reduced considerably the needed; and by practically elimi- scaffolding he further reduced , avoiding almost all running up and of ladders, as well as the labour en- n erecting scaffolding. In addition, bourer could attend on more brick-layers working on the ground level than he could working on the first floor and roof level of a two-storey cottage. Another point which weighed with him was that when building bungalows there is probably some gain in the rapidity with which a cottage can be covered in, and therefore in the amount of time in which men can be working under cover.

Mr. Parker decided that he could build in brick more expeditiously than in anything else; so his problem came to be to design bungalows which could be built as "Ford" cars are built: bungalows in which every part might be produced in large numbers, and would find, and fit, its place without any alteration or adjustment; but bungalows in which, whatever happened to be the aspect of a particular bungalow, every living—and every sleeping—room received a due amount of sunshine, and every larder came north. He found it impossible to secure these desiderata absolutely; he could not avoid giving one of the three bedrooms in a bungalow which faced south a north exposure. But he succeeded in securing that:

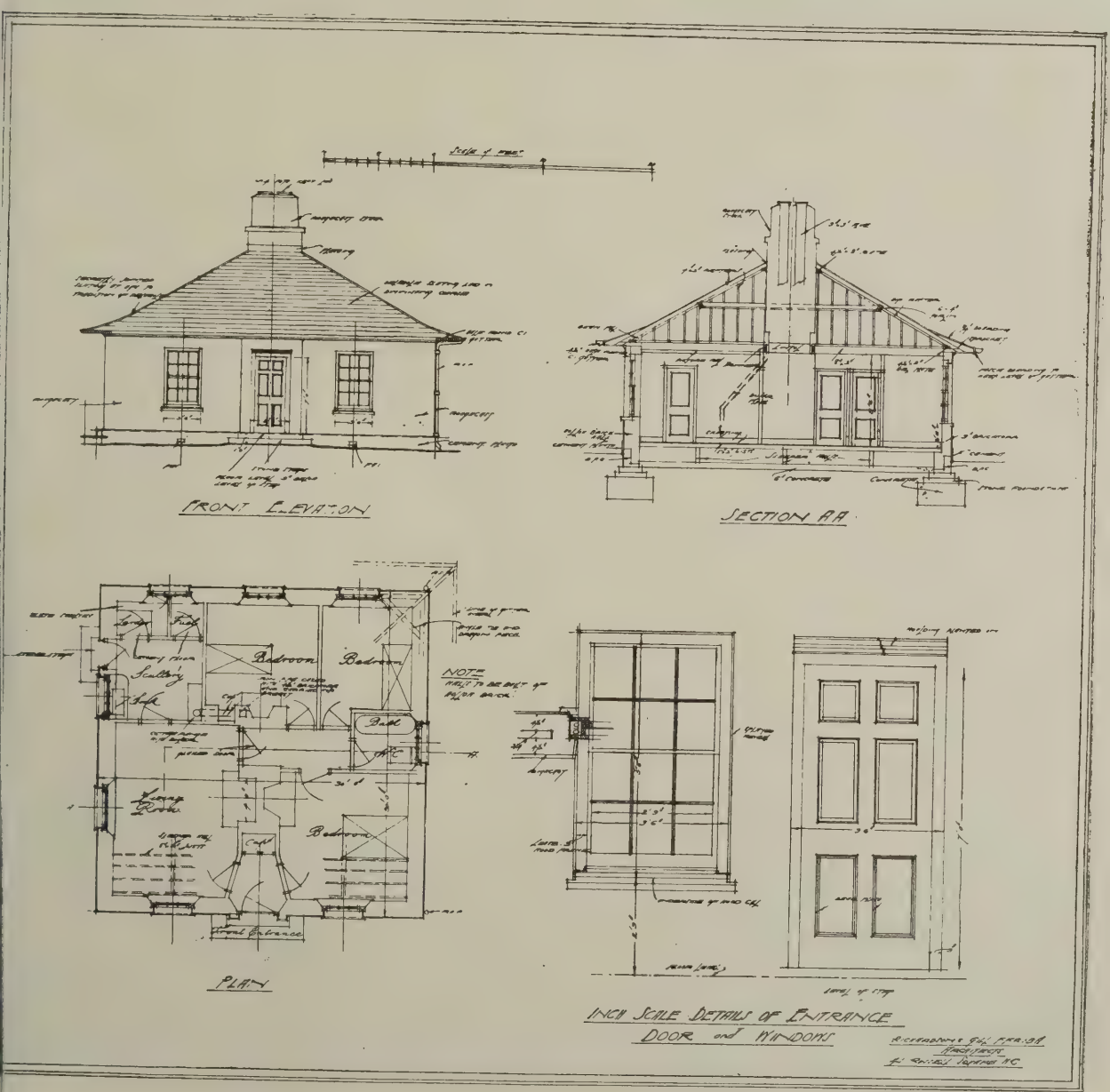
In Bungalow "A1."—The living room has windows facing south and east; the working kitchen has windows facing south and west; the largest bedroom has windows facing south and east · two other bedrooms have windows facing west; the larder faces north.

In Bungalow "A2."—The living room has windows facing south and east; the working kitchen has windows facing north and east; the largest bedroom has windows facing south and east; one other bedroom has windows facing west and north; the third bedroom is the only bedroom in any of the bungalows with a north exposure only. The larder faces north.

In Bungalow "A3."—The living room has windows facing south and west; the working kitchen has windows facing south and east; the largest bedroom has windows facing south and west; two other bedrooms face east; the larder north.

In Bungalow "A4."—The living room faces north and east; the working kitchen faces south and east; the largest bedroom faces north and east or west (whichever of the latter may be preferred); the two other bedrooms are south rooms · the larder has its window on the north side.

As already stated, of all the living—or sleeping—rooms there is only one sleeping



A COTTAGE-BUNGALOW. RICHARDSON AND GILL, FF.R.I.B.A., ARCHITECTS.

TYPE OF BUNGALOW ERECTED AT NEW EARSWICK FOR THE JOSEPH ROWNTREE VILLAGE TRUST.
BARRY PARKER, F.R.I.B.A., ARCHITECT.

room in the bungalow which will be sunless; and all larders have a north exposure.

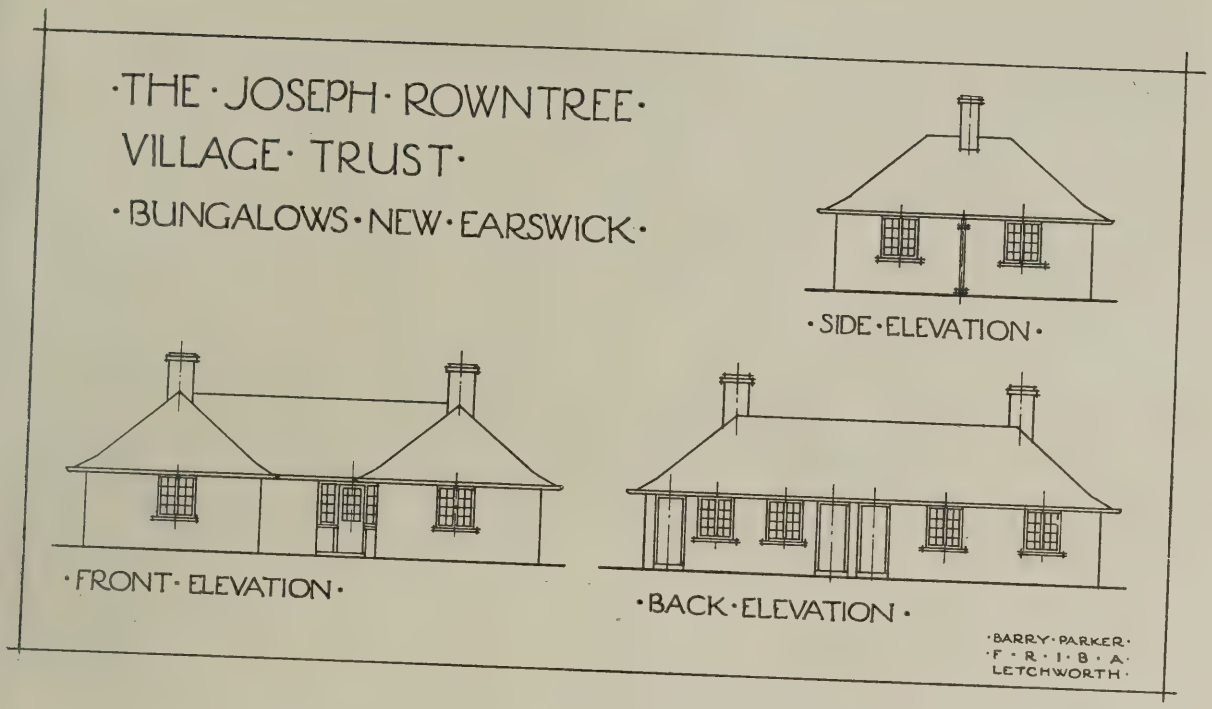
It should be noted that all connections which have to be made to the soil drain are grouped together and come to one point in the plan. Mr. Parker has also attached particular importance to securing a windowless end to each bungalow, so that when the bungalows are arranged on the land in the manner shown the instances in which the windows of one bungalow overlook the gardens belonging to another are very few.

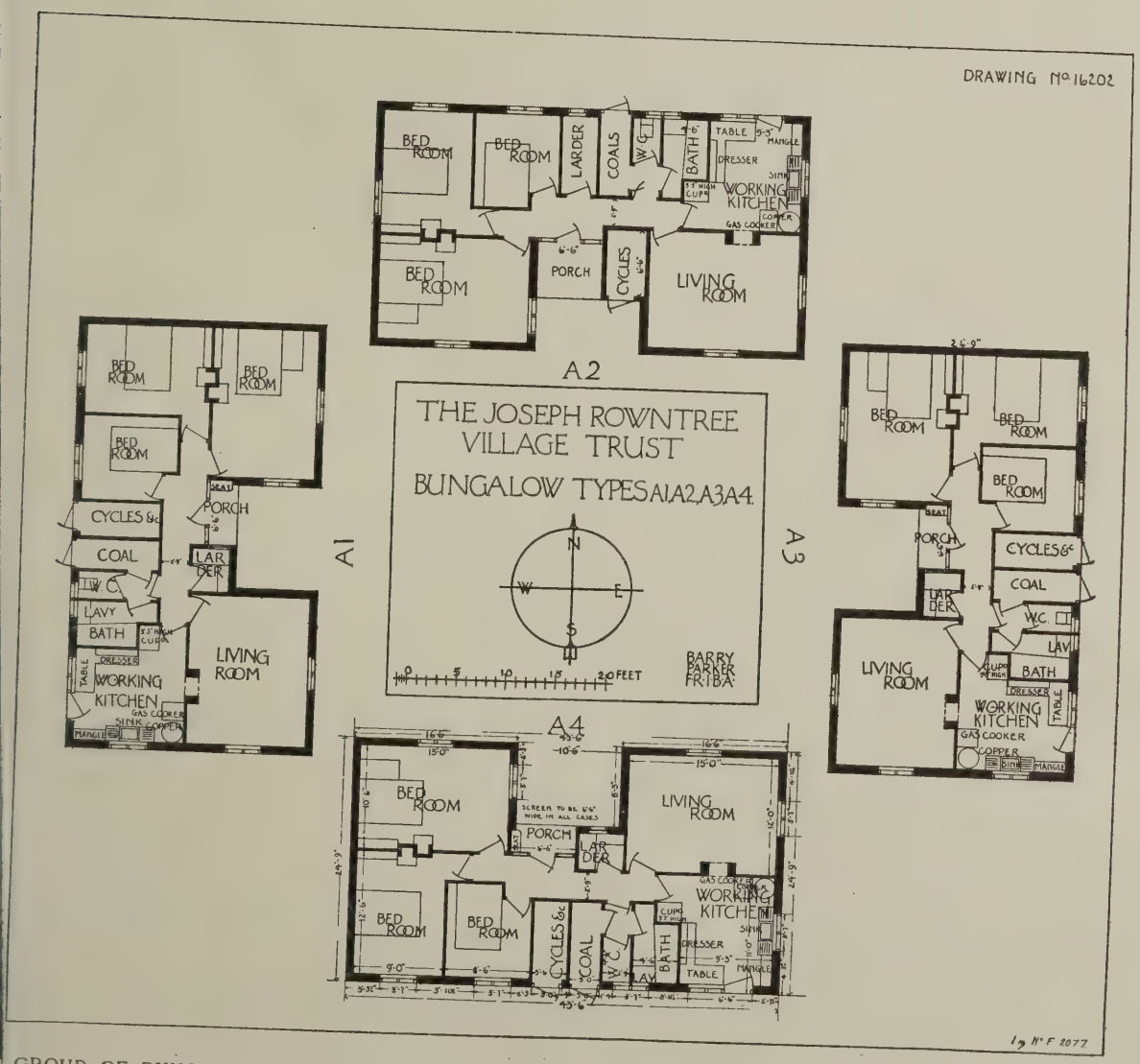
It will be noticed, also, that the bath and sink are close to the range in the working kitchen, the source of their hot-water supply. Mr. Parker is using a type of range on which all cooking can be done in the working kitchen by means of an open fire in the living room, or, alternatively, by means of a fire in the working kitchen, as the tenant chooses. He believes that a range of this type will solve many of the difficulties of the past. Cottage dwellers have hitherto made little use of the sitting room, and have frequently lived where all the housework and cooking are done, simply because they have not been able to afford two fires. With an open fire in the living room and the ovens and hot-plates in the working kitchen, the latter may become the workshop of the house, and the living room be always available.

Notes on Other Bungalows

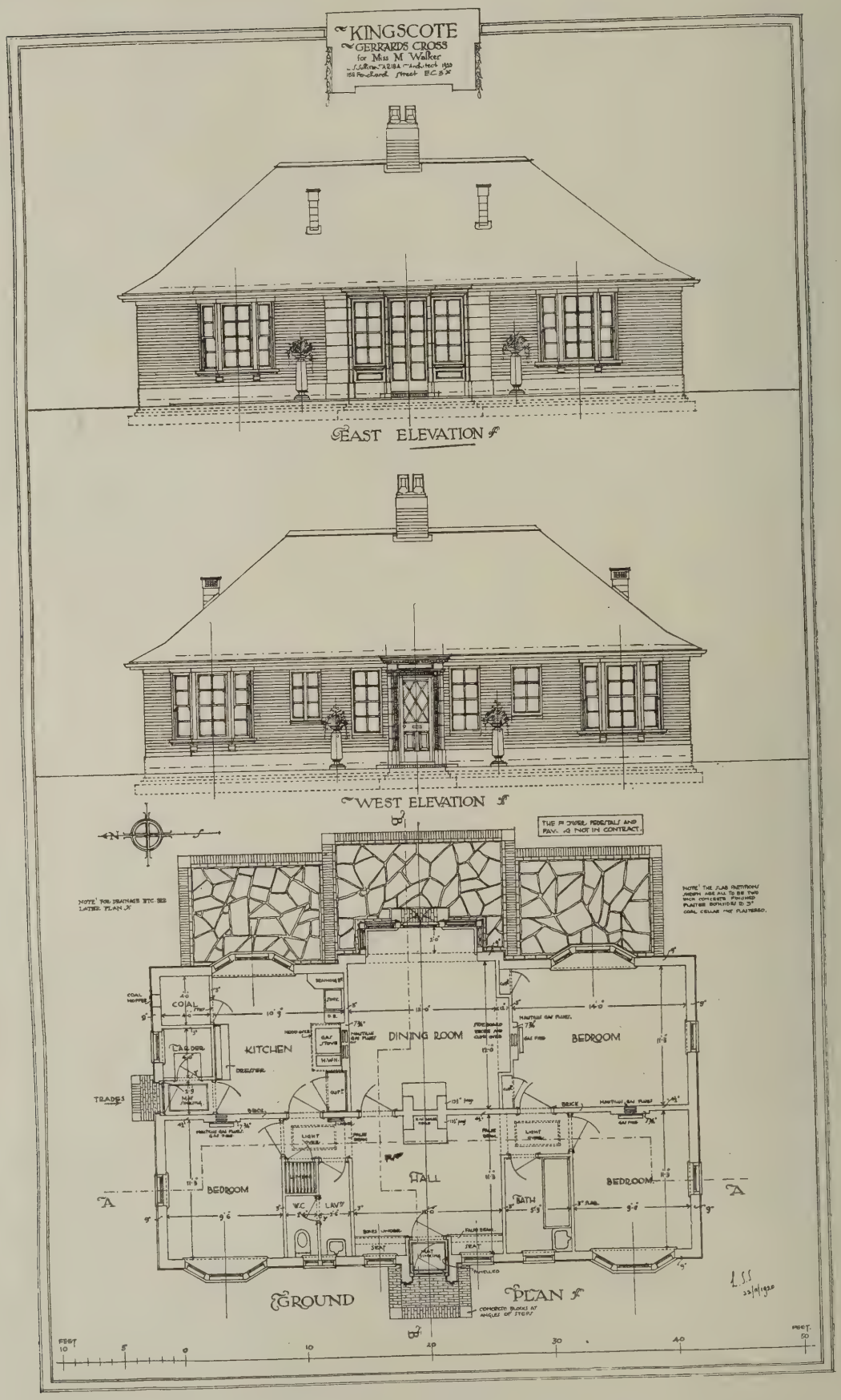
The bungalow at Gerrards Cross (pages 726-728), designed by Mr. L. Sylvester Sullivan, A.R.I.B.A., is now about to be erected. It is conceived on very simple lines, both as regards plan and elevations, architectural interest being conce at central points. With its well-ar accommodation and its pleasing it makes a very attractive and d home. The bungalow at Gledhov 729) has been designed by Mr. J Procter, A.R.I.B.A., for Major Braithwaite, D.S.O., M.C. This bungalow *de luxe;* and though it much larger scale than the kind that is in popular demand, it is ex interesting as showing a good ment of elaborate accommodation application of classical motifs to elevations. Messrs. Teather and bungalow at Cardiff (page 730) ill a further type—the picturesque. arched windows, buttresses, verandah, and well-proportioned it presents a very attractive while the accommodation is adequ well disposed. Note the capaciou room with single fireplace.

GROUP OF BUNGALOWS ERECTED AT NEW EARSWICK FOR THE JOSEPH ROWNTREE VILLAGE TRUST.
BARRY PARKER, F.R.I.B.A., ARCHITECT.



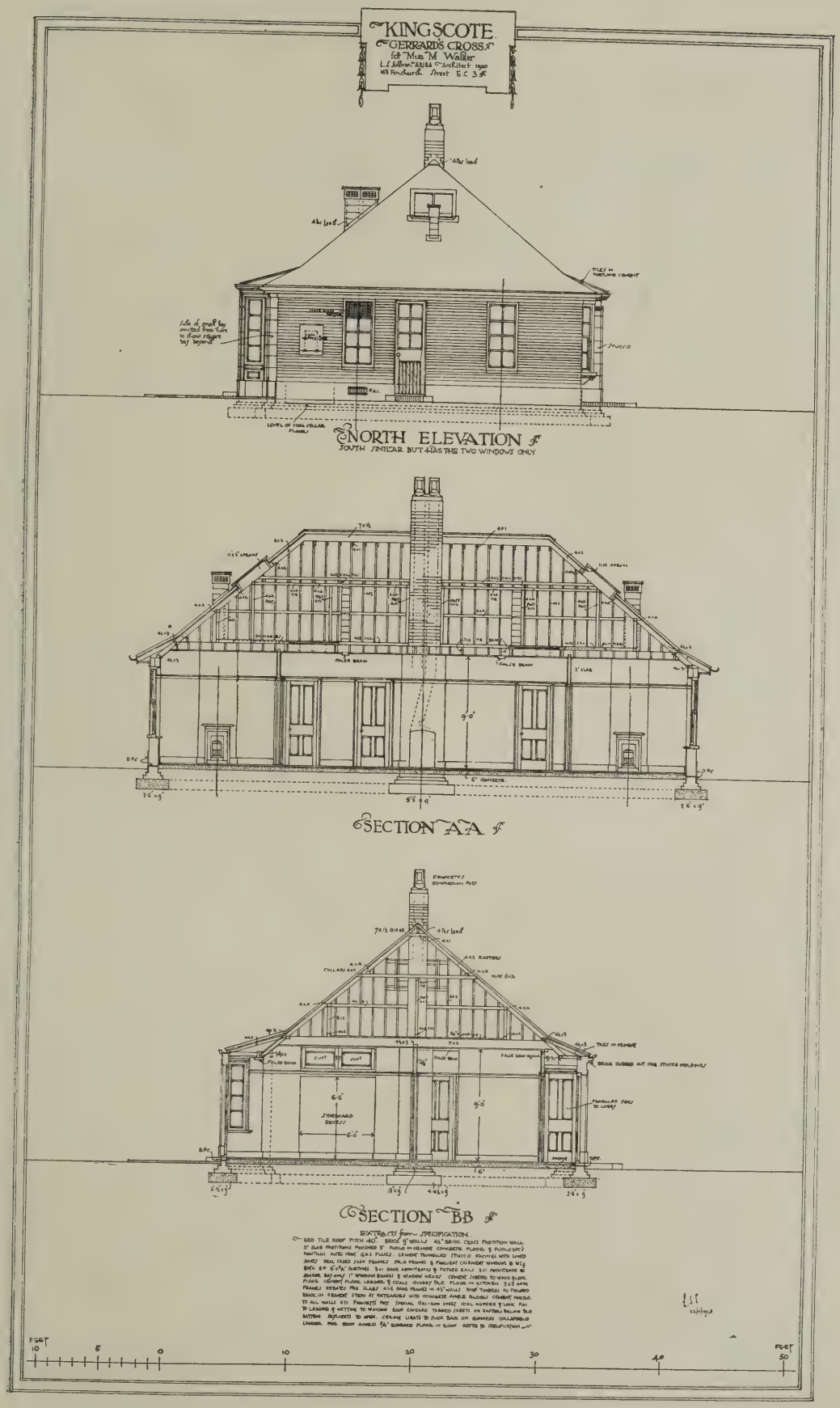


GROUP OF BUNGALOWS AT NEW EARSWICK, NEAR YORK. BARRY PARKER, F.R.I.B.A., ARCHITECT.



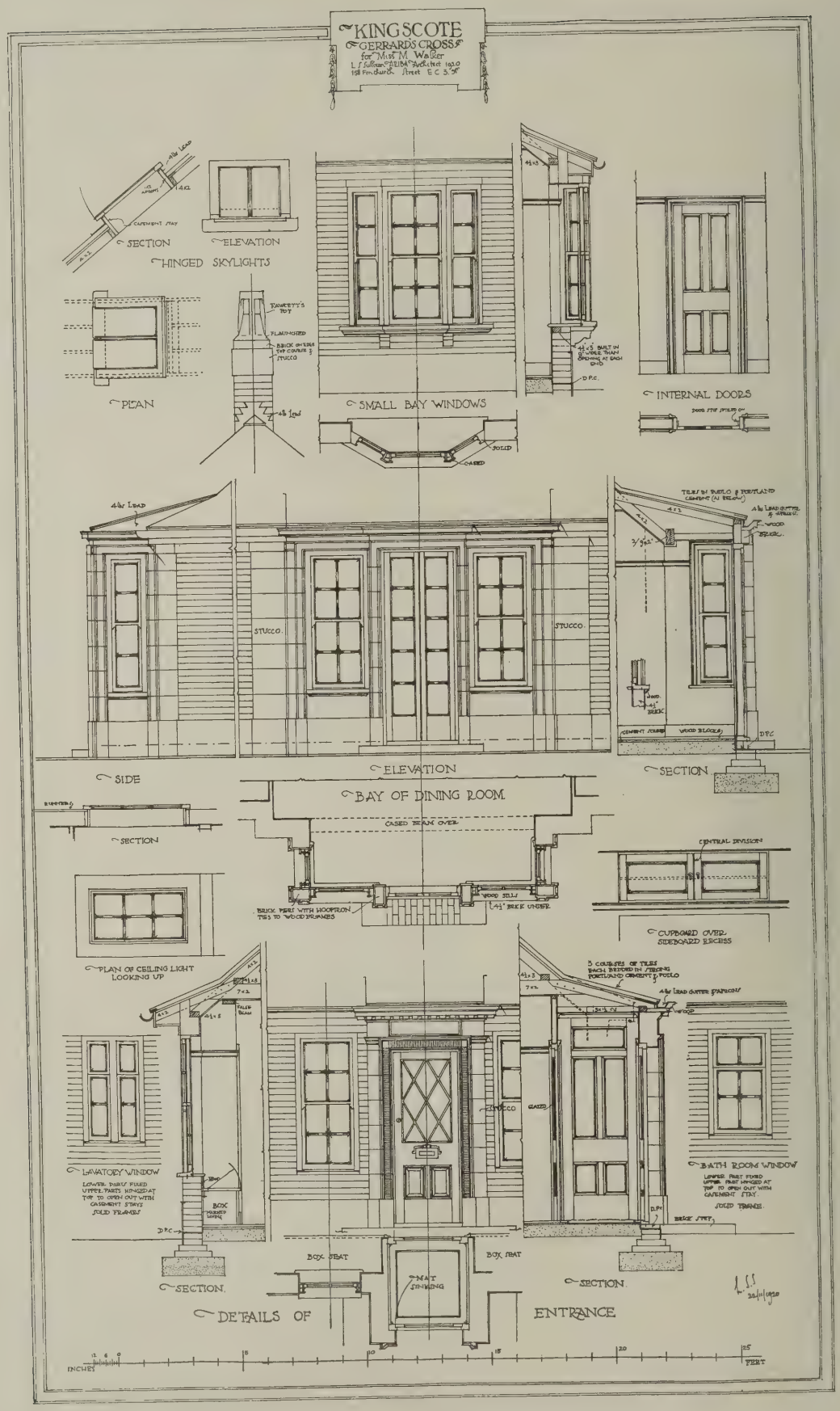
BUNGALOW AT GERRARDS CROSS. L. SYLVESTER SULLIVAN, A.R.I.B.A., ARCHITECT.

(*See page* 724.)



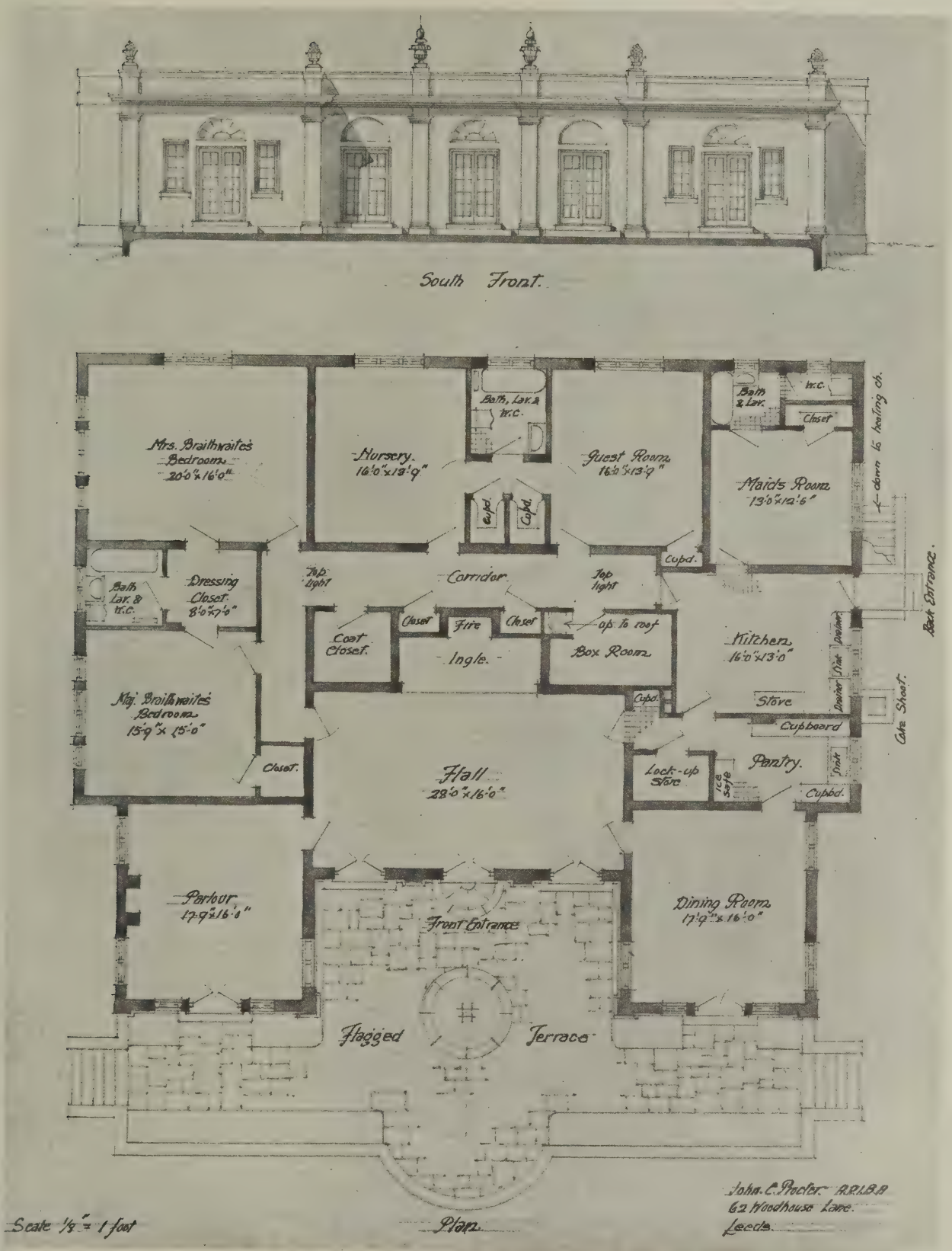
BUNGALOW AT GERRARDS CROSS. L. SYLVESTER SULLIVAN, A.R.I.B.A., ARCHITECT.

(*See page* 724.)



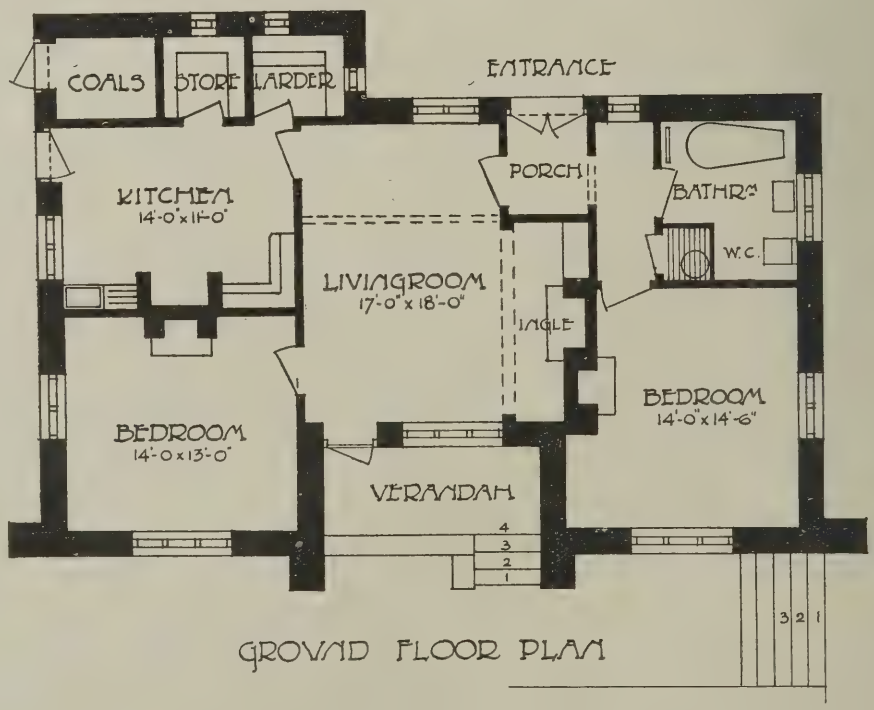
BUNGALOW AT GERRARDS CROSS. L. SYLVESTER SULLIVAN, A.R.I.B.A., ARCHITECT.

(*See page 724.*)



LARGE BUNGALOW AT GLEDHOW. JOHN C. PROCTER, A.R.I.B.A., ARCHITECT.

(See page 724.)



BUNGALOW NEAR CARDIFF. TEATHER AND WILSON, FF.R.I.B.A., ARCHITECTS.

(See page 724.)

'he Design, Planning, Construction, and Equipment of Cinematograph Theatres

By W. STANLEY BLOUNT

EFORE proceeding to deal in detail with the design, planning, construction and equipment of cinemas, ps a general survey of the subject not come amiss.

ildings for the display of moving pic- are named kinemas and cinemas in- minately, pronounced with a hard and a soft "c" respectively. It is tunate that there is not more unani- in the spelling and pronunciation, lering the etymological derivation. ema" being the more popular form, ver, it is here used.

e cinema industry has sprung within y few years from a small beginning, d upon more or less in the way of a ity and scientific novelty, to one of reat industries of the world, employ- housands of people and a large nt of capital. "The pictures," as an in the street prefers to call them, penetrated the utmost parts of the , and anyone who has not had the tunity of witnessing this marvel must r outside the reach of civilisation. hold that the cinemas have on the is such that it has been calculated n an average every individual in this y is a patron every two weeks.

tendency of the present time, espe- in large centres of population, is to cinemas with a big seating capacity, exceeding that of the legitimate e. Only a few years back a seating ty of 700 to 1,000 was considered arge, and the man who ventured on ding of that size was looked upon as ng pioneer and taking a fearful risk. building seating between 3,000 and is not uncommon, and there are l schemes in hand to hold larger ces than this. The general cry of syndicates and proprietors, espe- in London, is to enlarge and obtain accommodation, notwithstanding the increased cost of building opera-

nge to say, cinemas and other of amusement seem to be among ry few ventures in the domain of hitect that are a commercial pro- n in these days of expensive build- Whether the excessive cost is due in degree to Government control or factors hardly comes within the f this article, and is of too contro- ature to be commented upon

becoming usual with the modern gs, especially the large ones, to in- te tea and light refreshment rooms dditional attraction to the public, ne promoters have gone farther is and included card and billiard n their scheme, run on the lines of itute.

lesign of the cinema has become of interest to the architect because ers, in common with shopkeepers, gnising that something more than covered space is desirable, and thus hitect is given scope and opportu- indulge in an architectural treat- an imposing scale. It would be to the advantage of architects to give more attention to the decorative part of these buildings, especially the fibrous plaster, the type of hall suitable for picture-showing offering special opportunities for bold architectural conception. Unfortunately, too many architects leave this part of the scheme to the fibrous plaster decorating firms, which may be an excellent method in its way and save the architect time and trouble, but the business firm is often more concerned with making a profit than producing a good scheme, and has not the personal interest that the architect should have, especially if he be an enthusiast in his art. This is apt to result in a mere "period" type of decoration, lacking the personal touch which is the aim of all conscientious architects to instil into their work.

Primary Considerations

In planning a cinema the architect is faced with many difficulties, not the least of which is the necessity of meeting the requirements of the County Council's licensing regulations and local bye-laws, and the whole problem requires careful study and a large experience to be successfully solved. The promoters' objective in erecting a cinema being the financial return on his capital outlay, he is most concerned in obtaining sufficient seating accommodation to enable him to provide an entertainment of the best character with the best films obtainable, so as to draw an audience and leave his margin of profit, which should be in the neighbourhood of 20 per cent. With the high cost of building this is no easy problem to solve. The financial side of the question being so important, it naturally follows that the greater number of high-priced seats obtainable the better. The best seats being at the back, this necessity has produced the balcony type of hall with the lofty auditorium, which is a distinct advance on the early type, with its low-pitched ceilings, and so difficult adequately to ventilate.

Cost being such a big consideration, the architect should bear in mind that a long rectangular building is cheaper than a square one, that brick construction is cheaper than ferro-concrete, and that he can cheapen his roof by using one of the patent artificial coverings which are lighter than slate and consequently enable the scantlings of the roof timbers to be reduced.

The most essential consideration for the architect in planning a cinema theatre should be that an uninterrupted view of the whole of the screen can be obtained from all parts of the auditorium, including standing space at the back of the hall, and that the audience should be disturbed as little as possible by persons entering or leaving. The best position for the screen is at the end of the hall, opposite the chief entrance, so that all the administrative portion of the cinema and stairs up to the balcony can be placed compactly behind the back of the hall, and persons entering and leaving the auditorium have not to face the audience. With a large hall ample vestibules should be provided to form crush halls and aid in the dispersal of the audience. If possible a separate entrance, together with its own pay-box, should be provided for the cheaper seats, and this should be placed between the centre of the hall and the screen.

The usual practice in London is to hold a continuous performance, and the public have become accustomed to this; but if set performances on the lines of a music-hall are contemplated an advance booking office is an asset. Some promoters consider that set performances of three houses a day are, from the financial point of view, advantageous. The argument is that with a continuous performance the house is crowded out between five and six p.m., especially on Saturdays and early-closing days, and patrons have to queue up to obtain seats, but it becomes very empty towards the end of the evening. By emptying the building at a certain time, and commencing a fresh performance, people are encouraged to come later in the evening to the second evening house with a chance of receiving admission without having to wait in a queue. It also provides an opportunity for tidying up the auditorium.

The Site

The locality of the site is all-important for the financial success of a scheme, but that is usually determined by the promoters, and the architect has to make the best of a particular position. In the event of the architect being consulted as to the choice of a site (as he should be) the points to bear in mind are the slope of the ground and the possibilities for the exits. A considerable saving will be effected on the excavations for the auditorium, which must slope towards the screen if the ground falls to the screen end of the hall. If possible, it is advisable to have exits discharging into two thoroughfares, and for cinemas with a large seating capacity this is essential for the scheme to meet the requirements of the County Council.

Bye-Laws and Regulations

The regulations of the various county councils differ in minor points, which are too numerous to note in detail, so the regulations mentioned in this article are those of the London County Council.

While the drawings are in the preliminary stages it is advisable to consult the various authorities who have jurisdiction over cinemas, so that time is not wasted on any alteration to conform with their regulations after the drawings are completed.

Cinemas are under the heading of public buildings, and come within the jurisdiction of the local bye-laws applicable to all buildings of this character, and are also controlled by the special regulations of the county council within whose boundary the building is proposed to be erected, and the Cinematograph Act, 1919.

A complete set of drawings in duplicate to the scale of ⅛ in. to 1 ft. on linen, indicating accommodation and construc-

tion, together with a block plan (in duplicate), showing the surrounding premises, are required by the L.C.C., the majority of other county councils only requiring one set.

Architectural Treatment

The main entrance, being the dominant feature of the elevation, should be treated in a bold manner, and special attention should be paid to the entrance hall and foyer approaching the auditorium, so that a good impression is created on entering the building from the street.

In selecting the materials for the elevations the question of upkeep should be considered; only the most durable and those needing the minimum of attention should be utilised. It naturally follows that stone, either natural or artificial, or a combination of brick and stone, satisfy these conditions better than any other materials, and although the initial cost may be higher there is not the maintenance that cheaper materials need.

With regard to the interior of the hall itself, the main feature is naturally the screen end, and the surround to the screen, or what may be called the proscenium opening, should be made the culminating feature, to which everything else is subordinate.

The best seats in a cinema being at the rear of the hall, special attention should be paid to the treatment of this portion —not as in the case of theatres and music-halls, where the reverse applies.

It will usually be found that the most satisfactory result is obtained by treating the surround to the proscenium opening as a wide frame enclosing the screen and drapery. Any cornice to the side walls can then be returned in to the frame or architrave, or the latter brought out to stop it.

The architectural decorative scheme should be thought out from the commencement, so that piers, recesses, and openings can be made an integral part of the design. This saves expense and tends to produce a better result than when the plaster decoration is simply applied surface work to the shell of the building.

Construction and General Planning

The County Council regulations require that the whole of the construction, including exits and entrances, shall be fire resisting and the thickness of walls shall conform to the London Building Act, 1894.

The most economical spacing for the roof trusses, which should be of steel, is from 13 ft. to 15 ft., with either wood or steel purlins.

The balcony should be of concrete supported on girders or cantilevers, and any wood flooring has to be 1¼ in. thick, with iron tongues. It is more economical to support the balcony girders with stanchions, and thus reduce the quantity of steel required, but their use is not to be recommended owing to the obstruction to the view of the screen. A straight balcony is cheaper to construct than a curved one, because the latter entails the use of cantilevers, although the curved type has the advantage of a better effect, and also staggers the seats and provides a better view.

Metal lathing or plaster slabs are the best to use for the ceiling of the auditorium, wood laths not being permitted by the Regulations.

Great care should be taken in designing the rake of the balcony and of the floor of the auditorium, and trial sections should be set up. It is generally assumed that the eye of a person seated is about 4 ft. from the floor level, and one should allow enough slope to give an uninterrupted view over the head of the person in the second seat away, as shown in diagram No. 1. It naturally follows that the height of the screen above the auditorium and the projection of the balcony govern this. The rake for the auditorium should not exceed one in ten, and this can be a slope. For the balcony, where a greater rake is required, it is necessary to step down for each row of seats with either one or two risers, according to the rake, instead of having a slope. The maximum slope allowed by the Regulations is 35 deg. Care should also be taken to ensure that the rays from the lantern are not interrupted by persons passing in and out if the operator's room is over the balcony.

Private boxes are not regarded with favour by the licensing authorities, and where permitted must be well lighted and open to easy inspection.

Lavatories.—Lavatory accommodation must be provided for both sexes according to the seating capacity of the hall. A guide for the number required is one w.c. and three urinals for males for each 500 persons and one w.c. for females for each 300 persons. The lavatories must be easily accessible from all parts of the house, and the sexes adequately separated.

Administration.—The necessary ministrative requirements are, mana private and general office, staff room both sexes, with lavatories and pro for preparing refreshments, a sv room, generating room, bill-po store, and ample storing space for br and cleaning utensils. The mana office should be large enough to use board-room. It is advisable to pr ample accommodation for the genera so that they shall be contented and fortable.

Orchestra.—The orchestra shoul provided with a space at least eigh wide with a rail and curtains about feet high, and the floor should be about 2 ft. 6 in. below the level auditorium. Should it be the intent the management to have coloured li effects during the musical interlude performance, attention should be p the shape of the orchestra enclosu that it gives a good impression fro balcony, where the most complete v obtained. If an organ is to be pr the console should be in the orchest the centre in front of the conductor f ference), and in such a position th musician can see the screen. An chamber and a blowing chamber v necessary, and these should be damp and bone dry before the organ is ins A band room with music store and tories should be provided for the use musicians, easy of access fron orchestra.

Seating and Gangway

The minimum width allowed f gangways is 3 ft. 6 in., and they sh in straight lines leading to the exits maximum number of seats that placed in a row between the gangv twelve, at 20-in. centres, which minimum spacing. This number o takes a space of 20 ft., centre to ce arms, and it should be remembere the width of the arm is 3 in., so th row has two additional half-arms, 1 the over-all dimension of the ma number of seats 20 ft. 3 in. No se be more than 10 ft. away from the way, so that the number of seats in determines the number of gangwa the width of the hall. Diagram illustrates the setting-out to obt maximum number of seats. In de ing the width of the hall a margin o inches over the width of the sea gangways should be allowed for and architraves, etc. For large

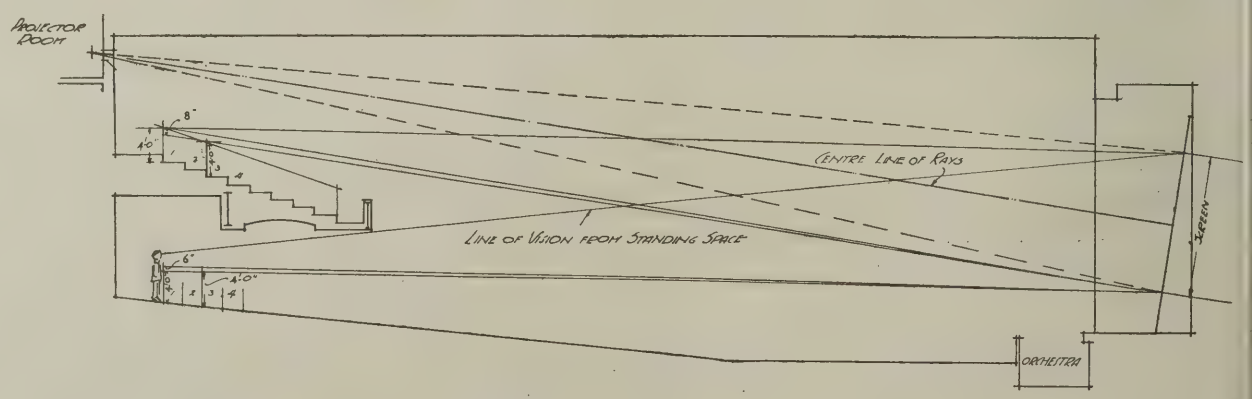


Diagram No. 1.

Section showing the Principles which govern the Design

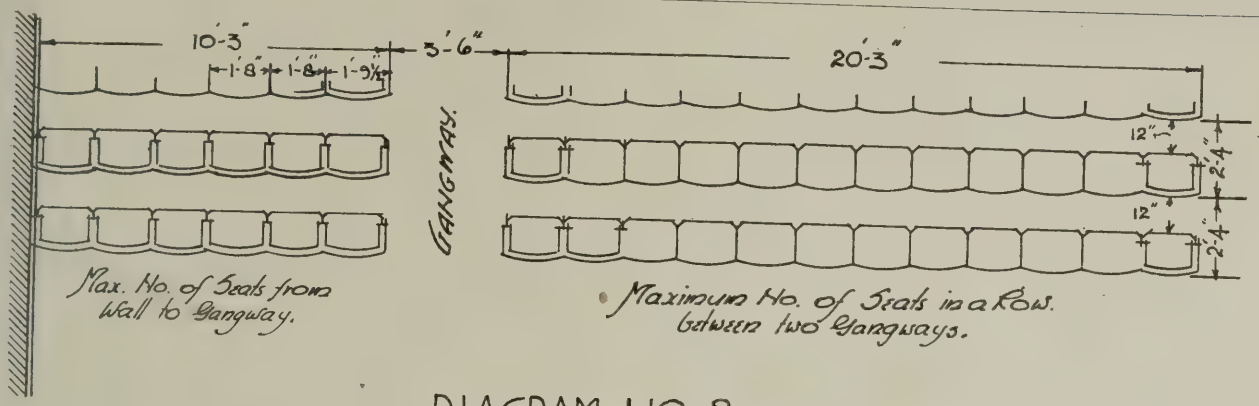


DIAGRAM NO. 2.

isable to allow 4 ft. gangways, and eep to the minimum width. The ium distance from back to back of ating is 28 in., but for the higher-seats it is advisable to allow 30 in., more comfort to the audience. The on method of fixing seats to the con-loor is by building in 3 in. by 2 in. uiled battens in the concrete flush he surface and screwing the stan-to them. These battens should be running the long way of the hall, t parallel with the backs of the and should be well tarred or ed before being fixed in the concrete ent decay. If the auditorium is not covered with carpet, the concrete be finished with a patent jointless wood blocks, but if a carpet is to the surface of the concrete should ed with one of the patent prepara-prevent the dust which always om a floated surface.

Exits and Staircases

umber and the widths of exits and es is governed by the seating of the hall. Two separate exits are required for every 500 persons from every floor, and one additional exit for each 250 over this number on each floor. The exits have to be 5 ft. wide in the clear between the leaves of the doors when opened, which means 5 ft. 4 in. between the frames, if 2¼ in. thick doors are used, and two of the exits from each floor must deliver into separate thoroughfares. If not more than 400 persons are accommodated, the exits may be 4 ft. wide in the clear between the leaves of the doors when opened. All exits from the auditorium must open outwards, and any doors leading from exit corridors or staircases must be hung so as to be closed by the stream of persons passing from the auditorium to the street. See diagram No. 3. In calculating the accommodation standing space is taken into consideration, but not the gangway. If all exits cannot discharge into a public roadway owing to the site only having a frontage to one street, a private thoroughfare must be provided not less than 10 ft. wide for the side exits. Staircases to halls, with an accommodation up to 300 persons, may be 4 ft. wide, and above this number 5 ft. wide in the clear at their narrowest parts. The minimum tread is 11 in. and the maximum rise 6 in., and the risers should lap at least 1 in. over the back of the tread to the step below. Not more than fifteen or less than three steps are allowed to a flight, and not more than two flights of fifteen steps each are permitted without a turn. All doors used for entrances must open both ways, and all entrance and exit doors shall be fitted with panic bolts.

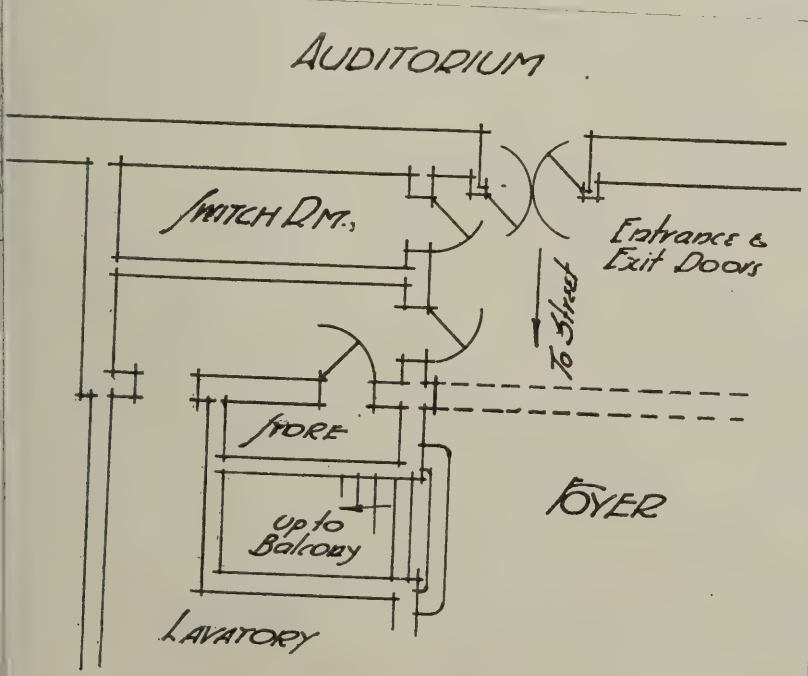


DIAGRAM NO. 3.

The Operator's Room

The operator's room must be separated from the auditorium, constructed with fire-resisting materials, and all joinery must be hard-wood, teak usually being used. The doors must be 2 in. solid. The minimum practical width is 6 ft. and length 10 ft., but this provides such a confined space that these dimensions should be increased when possible. A separate room should be provided for film-winding, and if space allows a small workshop and store is useful. The operator must be provided with two ways of escape, and all doors must open outwards. The operator's room must, of course, be placed in the centre of the building at the back of the hall, and where a balcony is formed it is usually placed above, except in the case of very large halls, where it is sometimes brought forward and hung across the ceiling to decrease the throw or projection. In order to prevent distortion of the picture, the screen should be placed at right angles to the centre line of the rays of the projection, as shown in diagram No. 1. Consequently, the best position of the operator's room is at the back of the hall, so that the minimum inclination is given to the screen from the perpendicular in order to give an undistorted view from the front seats on the ground floor. It is possible to project up to 200 ft. without an excessive amperage being required, but the usual limit is between 150 ft. and 160 ft. Two projectors are necessary, and a third one is to be recommended as a stand-by. They should be firmly bolted to the floor, and fixing blocks should be provided when laying the concrete to which the standards can be screwed. An aperture, about 12 in. by 10 in., with splayed sides, has to be provided for each projector, and an observation hole about 9 in. by 9 in. to each for the operator. These holes have to be closed with iron shutters, with an emergency apparatus for release from the back of the auditorium as well as by the operator. It is advisable to leave a large opening in the wall between the auditorium and the operating room, of suffi-

cient size to accommodate all the apertures. The brick work can then be filled in between the openings to suit the iron shutters and closing gear, thus saving adjustment when these are received from the makers. Buckets of sand and patent chemical fire extinguishers should be placed in the operator's room. It is advisable to fill in the apertures with ¼ in. plate glass in hard-wood frames so that the noise made by the projectors and the voices of the operators are not heard by the audience. This glass must be flawless so that the picture is not distorted.

Heating and Ventilation

An efficient heating and ventilation system is most essential. Low pressure hot-water heating, with radiators recessed in the walls of the auditorium and closed in with iron grids, is a good system to adopt. The boiler and fuel store should be at the lowest point of the hall, so as to obtain the benefit of the raking floor for the mains. Fresh-air inlets should be built in the walls at the bottom of the radiator recesses leading to the open air, and the grilles on the auditorium side should have a baffle plate covering the lower portion, to prevent a direct through draught and to force the cold air over the top of the radiator, so that it is warmed before entering the building. The hall can be ventilated by means of electrically-driven fans connected by trunks to exhaust gratings in the ceiling and under the balcony. The general practice is to allow for the air in the whole auditorium to be changed three times an hour, and the size of the exhaust and fresh-air inlets must be calculated accordingly. Cinema ventilation requires more careful consideration than is necessary for the legitimate theatre, because the air must be kept clear to obtain the best results from the projectors, and, as smoking is customary in these buildings, unless the atmosphere is quickly changed it tends to become heavy and fog the picture; on account of this it is advisable to have two fans (with separate trunks and exhaust outlets), one each side of the hall, to draw the smoky atmosphere away from the centre as quickly as possible. Small halls can be economically heated by gas radiators and ventilated by a natural system, but for large buildings the hot water and forced ventilation, although more costly to instal, gives a better result. Some method of admitting sunlight to a cinema is very desirable from a hygienic point of view, even if it is only utilised during the cleaning before the performance. This can be effected either by making some portion of the roof to slide, or by providing unglazed windows in the walls. The windows can be either of metal or of wood, with the sashes covered with zinc in lieu of glass.

Lighting

The lighting is divided into two parts—permanent and general. The authorities require two complete systems, either (a) electric light and gas, or (b) both electric light from separate sources of supply. The permanent lighting is kept continuously burning throughout the performance, and consists of the exit signs and the red lights, while the general lighting is for the full illumination of the auditorium.

In the case of (a) method being adopted, the gas which is the emergency lighting should be sufficient by itself to provide a dim light throughout the whole building, including the auditorium, staircases, exits, entrances, and corridors; enough to enable the audience to see their way to the exits in case of emergency and failure of the electric light. In the case of (a) the exit signs must be illuminated by gas, while with (b) they must be illuminated from both sources of supply.

All exit doors, including entrances which can be used as exits, must be clearly indicated by illuminated signs, with "Exit" in 7 in. letters, while all other doors visible to the audience in the auditorium not exits must have illuminated signs, "No Exit" in 7 in. letters. These should be at least 6 ft. 9 in. from the floor.

General lighting should be on a dimming switch controlled by the operator, but there must also be an independent control outside the enclosure. The decorative scheme and fittings selected determine to a great extent the method of lighting. It is usual to place brackets to the walls and balcony fronts, while the main body of the hall may be illuminated from the ceiling and under the balcony, either by concealed or exposed lighting. The methods of general arrangement for the lighting of the auditorium are so numerous that it hardly comes within the scope of these notes to describe them in detail, but it is worthy of careful attention, for the general effect can be made or marred according to the success of that adopted. It is desirable to obtain a warm effect from the illumination, and to avoid a hard, cold, white light. It is economical to generate the electric light and have a stand-by on the supply company's main. Excluding initial cost and maintenance, a fair average cost for generating with a gas-engine works out at about 3d. the unit, and this compares favourably with the company's charges.

Fire Appliances

The Fire Brigade has jurisdiction over the fire appliances, and a certificate has to be obtained from this authority and submitted before a licence is granted. The building has to be provided with a sufficient number of hydrants, so that a stream of water can be brought to play upon any portion of the interior. The hydrants must have a minimum diameter of 2½ in. and be connected with a main having a minimum diameter of 3 in. to the high-pressure street main. It is advisable that the thread of the nozzles should be similar to that used by the Fire Brigade, so that they can connect up their hose to it in case of necessity without having to use connecting pieces. Each hydrant should have at least 30 ft. of hose with fittings of the London Fire Brigade pattern, and should be fitted with a bibcock for filling buckets. Three buckets filled with water must be placed near each hydrant.

Where there is not a constant supply of water, and also in the case of large cinemas even when connected with a constant supply, the authorities demand storage tanks of a capacity proportionate to the size of the hall connected to hydrants as an additional safeguard.

Proscenium and Screen

It cannot be emphasised too strongly that the proscenium forms the key-stone to the internal decorative treatment.

In many halls it is becoming the practice to provide a musical turn in the interval between the performances, and this entails the provision of a stage or platform.

Unless a large stage is to be provided, with upper part to fly the screen, the stage should be in front of the screen and a space of at least 8 ft. should be provided be the footlights and the curtain coveri screen when not in use. This enough space for a piano. If a st included it is also necessary to prov tiring rooms for the artists, with la accommodation.

In the past the usual practice has b have a screen with a fixed curtai round and pelmet, but this has a ba pearance and is not satisfactory. It coming customary in the newer t cinema to place the screen in a rece have a drop or pull-off curtain to c it when not in use, and it is an att arrangement if, in addition to these second curtain of black material vided, so that it can be drawn off diately the picture is shown, and end, in order that the bare surface screen is not seen.

The proscenium curtains should trolled from the operator's room electric motor, and also the c should control the stage lighting.

A good type of screen is that n canvas treated with one of the patent processes to give a strong re surface. This should be surround straight black material (velvet for ence) about 4 ft. wide at the top a and continuing to the stage leve bottom in the same plane as the The draw-off curtain should lap surround about one foot, to show

In the recess for the screen al should be made for the rake neces it to be at right angles to the centr rays of the projector, so that the is not distorted. See diagram No

The bottom of the screen shoul less than 7 ft. or more than 12 ft. floor of the auditorium. The siz screen is in the proportion of 4 should be related to the size of th

Decoration and Furni

From the public's point of vie from the pictures themselves, the tion and furnishing is the most i item, and the success of a cinema commercial and architectural st depends to a great extent upon th of the result obtained.

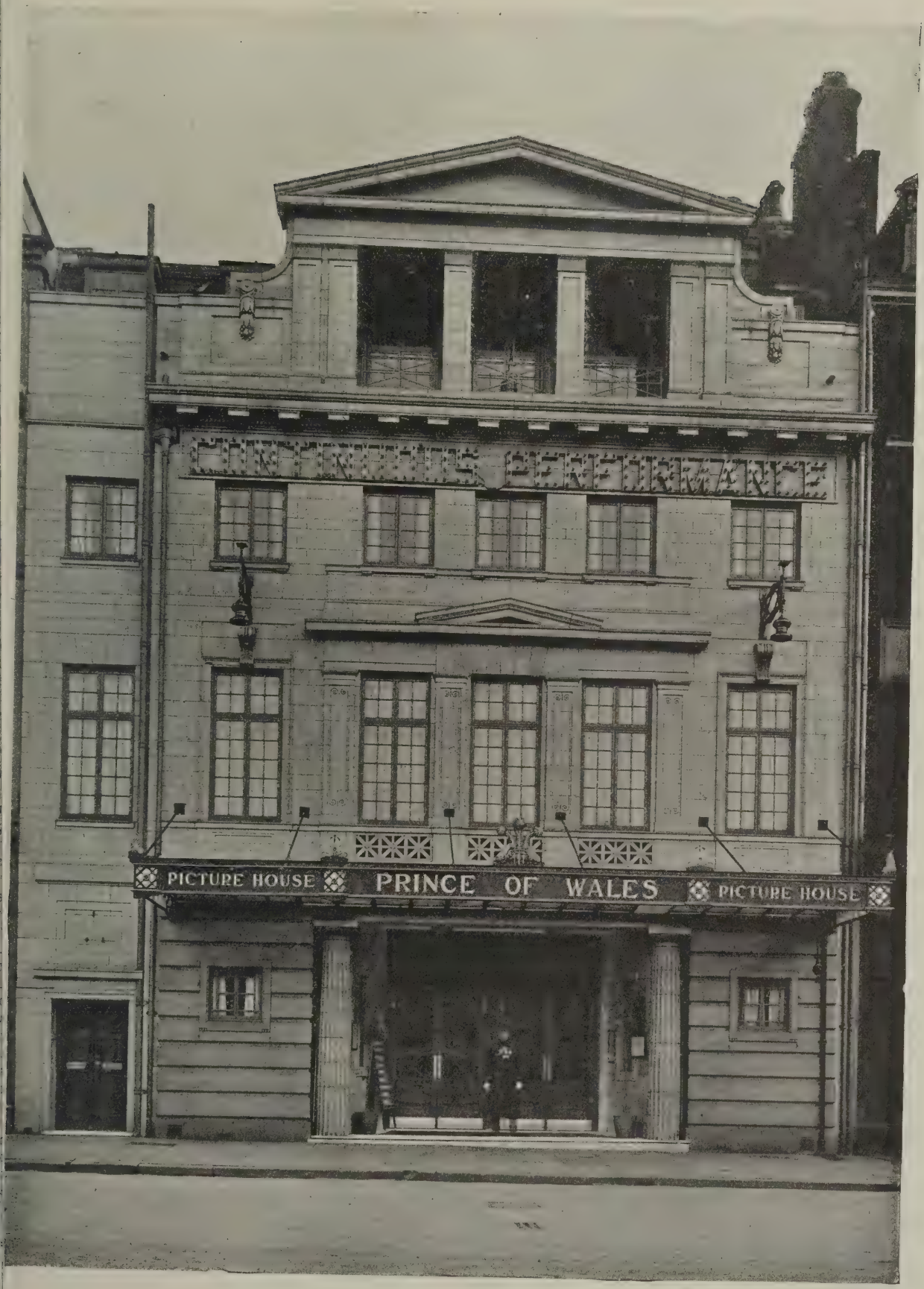
It should be the aim of the de obtain a warm and cosy interio the performance may be enjoy the most attractive conditions. of a fugitive nature should be av the initial decoration of a new French grey and cream are tw most successful colours for new

The most appropriate treatmen fibrous plaster is undoubtedly rendering of the Renaissance, can be decorated in a diversity

The enrichments can be pick gold and bronze, with Jap aluminium leaf, lacquered, in co with colour of which the shad varied for panels, etc., to give the surfaces, or various colour used, according to the taste o signer. It is not advisable to many colours in a decorative tre the effect is restless, and the colouring should be provided draperies, carpets, and seats, the faces merely being a back-ground

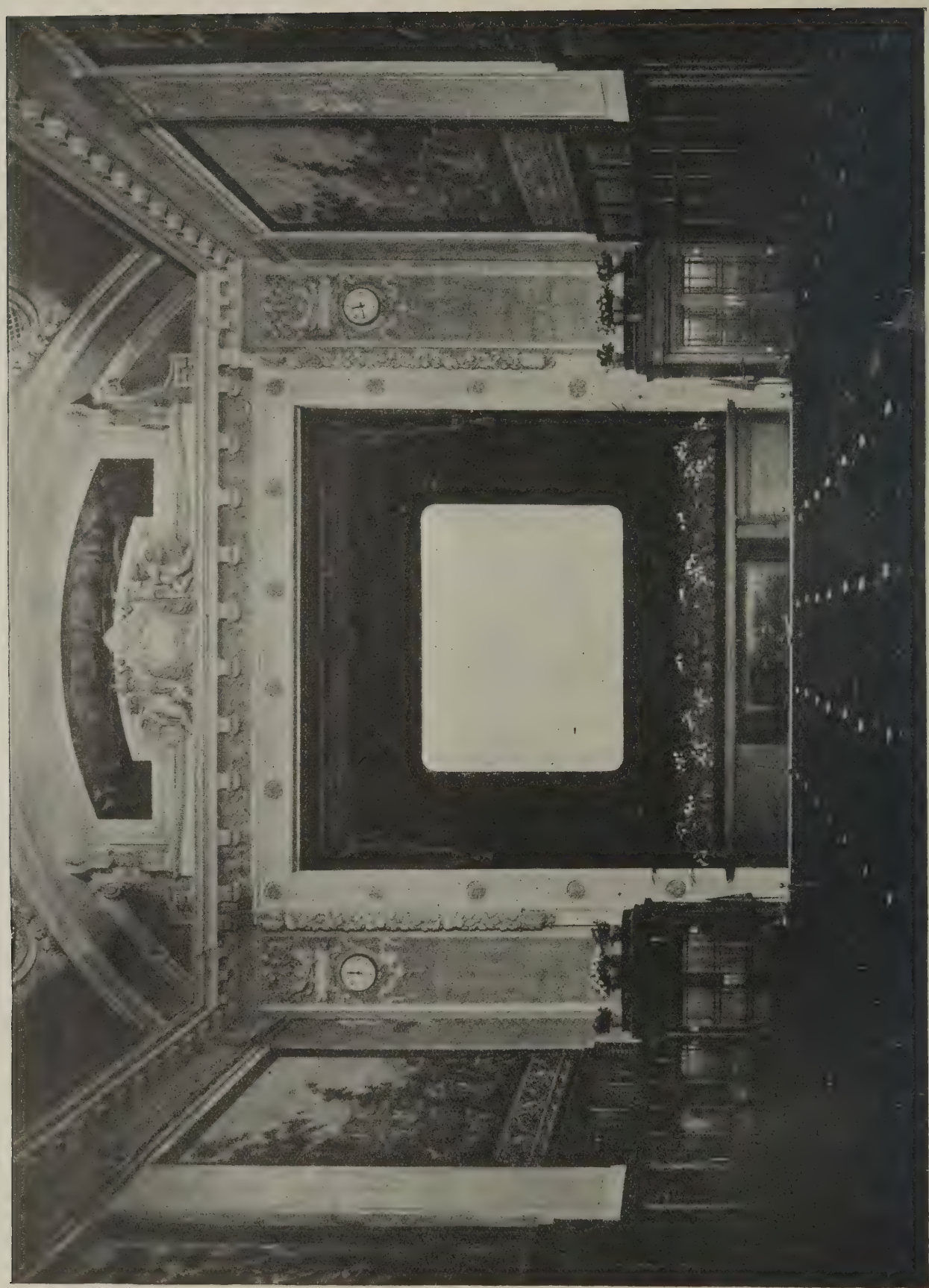
All hangings and drapery rendered non-flammable.

If space allows, the entranc foyer should have lounges and se use of people waiting to meet the and this is the most appropriate stalls for the sale of sweets and



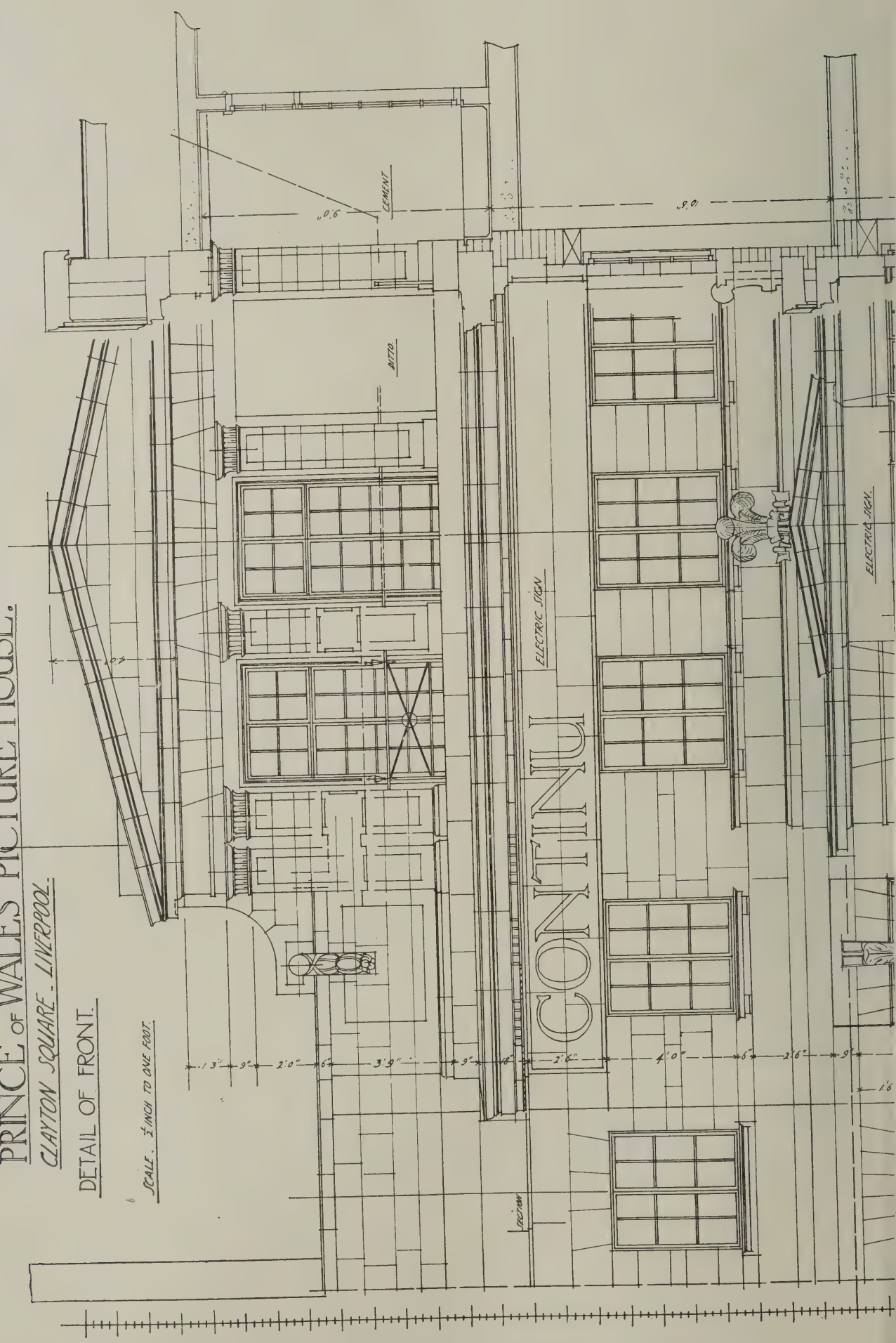
PRINCE OF WALES PICTURE HOUSE, CLAYTON SQUARE, LIVERPOOL. GEORGE L. ALEXANDER, A.R.I.B.A., AND MATTHEW WATSON, LANDLESS, AND PEARSE, ARCHITECTS.

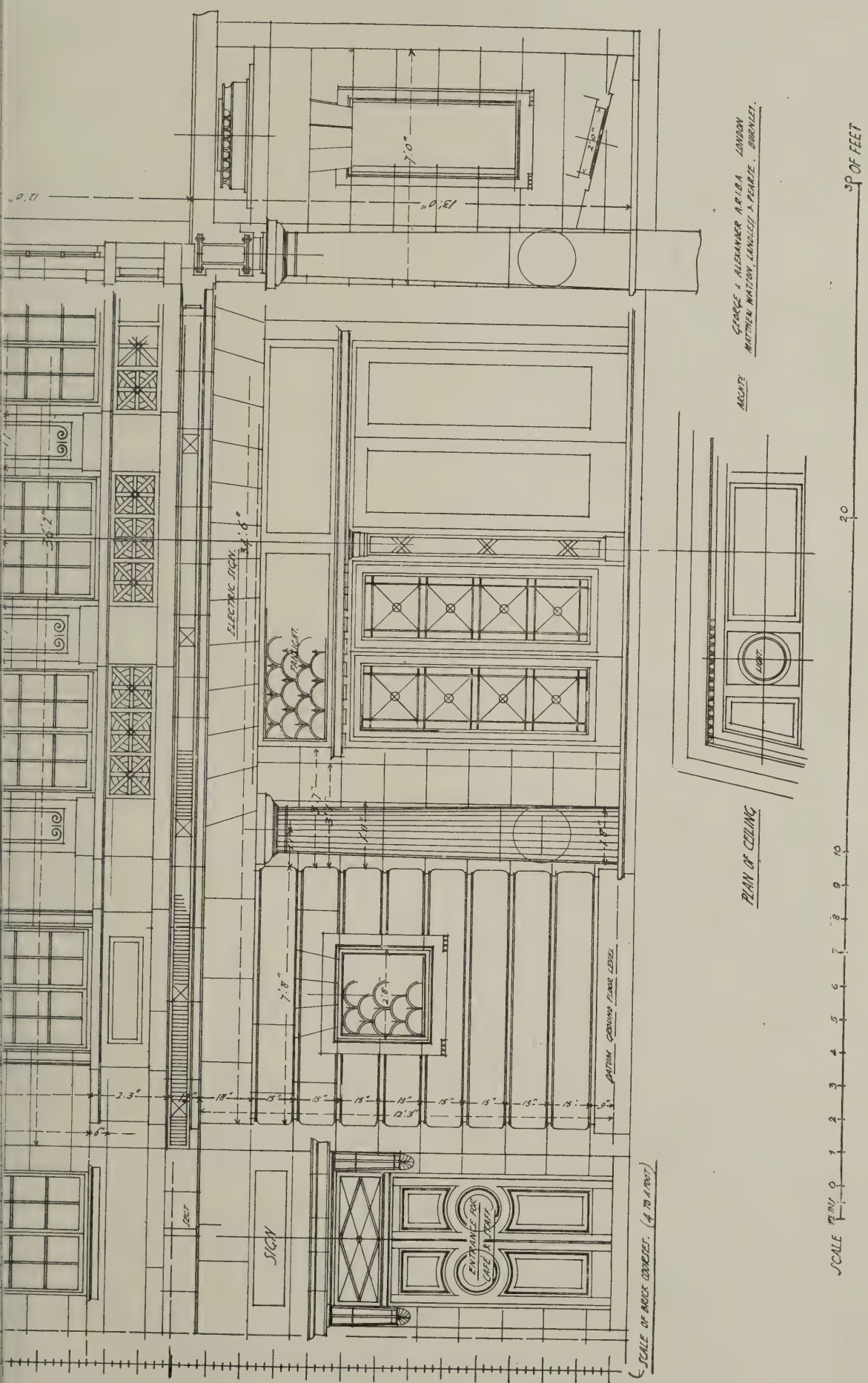
(*See page* 741.)



PRINCE OF WALES PICTURE HOUSE, CLAYTON SQUARE, LIVERPOOL: INTERIOR. GEORGE L. ALEXANDER, A.R.I.B.A., AND

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS


PRINCE OF WALES PICTURE HOUSE.
CLAYTON SQUARE - LIVERPOOL.
DETAIL OF FRONT.
SCALE. ½ INCH TO ONE FOOT.
CEMENT
DITTO.
ELECTRIC SIGN
CONTINU
ELECTRIC SIGN.
SECTION



PRINCE OF WALES PICTURE HOUSE, CLAYTON SQUARE, LIVERPOOL: FRONT ELEVATION. GEORGE L. ALEXANDER, A.R.I.B.A., AND MATTHEW WATSON, LANDLESS AND PEARSE, ARCHITECTS.

(*See page 741.*)

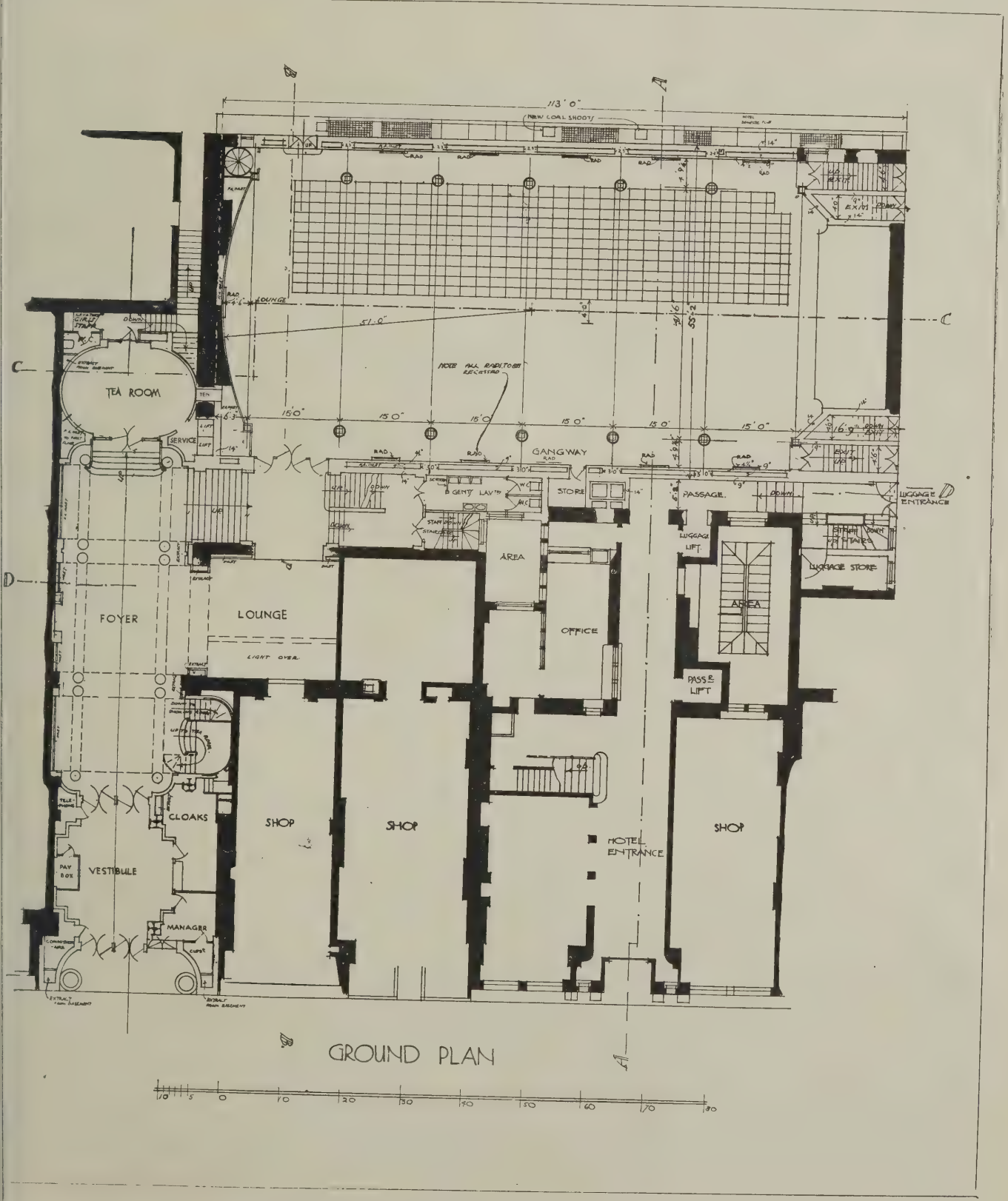
THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

rince of Wales Cinema, Liverpool

'he Prince of Wales Picture House, cted at Clayton Square, Liverpool, from designs of Messrs. George L. xander, A.R.I.B.A., and Matthew tson, Landless and Pearse, architects, one of a group of theatres belonging Messrs. Provincial Cinematograph eatres, Ltd. The front, which affords yet further evidence of the adaptability of Classic design to modern purposes, is executed in "Marmor," supplied by the Leeds Fireclay Company. The iron shelter, which we understand to be an addition to the original design, was executed by the Falkirk Iron Company. The entrance is panelled in oak. Messrs. McLaughlin and Harvey, of Belfast, were the general contractors, and the fibrous plaster work was executed by the Bromsgrove Guild.

New Picture House, Edinburgh

Accommodation for about 1,000 people is provided in the new picture house which has been erected at Edinburgh for the Provincial Cinematograph Theatres, Ltd. Originally the entrance foyer was a large shop occupied by Messrs. Lipton, and the theatre proper at the rear formed part of the Royal Hotel. The entrance front

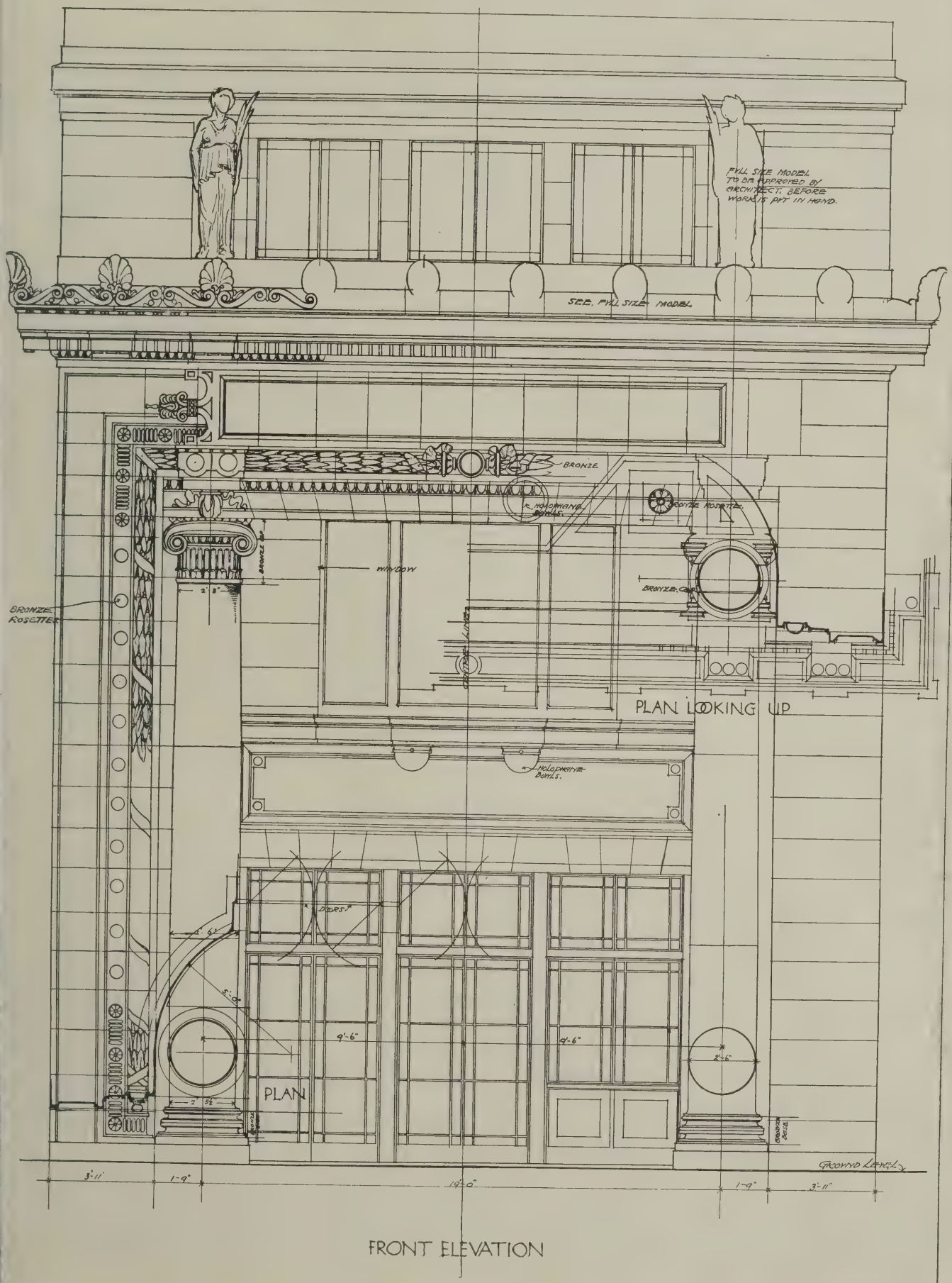


NEW PICTURE HOUSE, PRINCES STREET, EDINBURGH: GROUND PLAN. ATKINSON AND ALEXANDER, ARCHITECTS

is carried out in Pentelikon marble, with bronze enrichments, the two large columns being of Swedish green marble. The vestibule is lined with alabaster generally, and has a dado of Sienna, with black bands. The ceiling is a gilt mosaic vault, and the enrichments are of bronze, and the foyer is panelled throughout with Scagliola columns. At the end of the foyer is a small oval tea room, decorated in the Louis Seize style. Two large cafés are provided—one in the basement, which is oak panelled, and the other on the first floor, in the Adam style. The auditorium is modelled on the lines of a Roman basilica, with side galleries supported on Scagliola columns. The walls generally are covered with tapestry framed in dark oak, and under the galleries are bronze inlet grilles of the usual leaf pattern. Messrs. Atkinson and Alexander were the architects, and the contractors were as follows: Messrs. Millar and Son, Edinburgh, general contractors; Messrs. H. Young and Co., London, steelwork; Messrs. Whitehead and Co., London, marble; Messrs. Bellman, Ivey, and Carter, London, Scagliola; Messrs. Fenning and Co., London, mosaic; Messrs. Ogilvie and Co., Aberdeen, and Messrs. J. Taylor and Co., Edinburgh, oak work; Messrs. Bromsgrove Guild, Br grove, and Messrs. Gaze and Co., fib plaster theatre, foyer, etc., and tea ro Messrs. Morrison and Son, plumb Messrs. W. Macfarlane and Co., Glas grilles; Messrs. Albany Forge, Lon railings; Messrs. H. Hope and Son, mingham, bronze doors; Messrs. Wing Webb, Wolverhampton, door furnitu

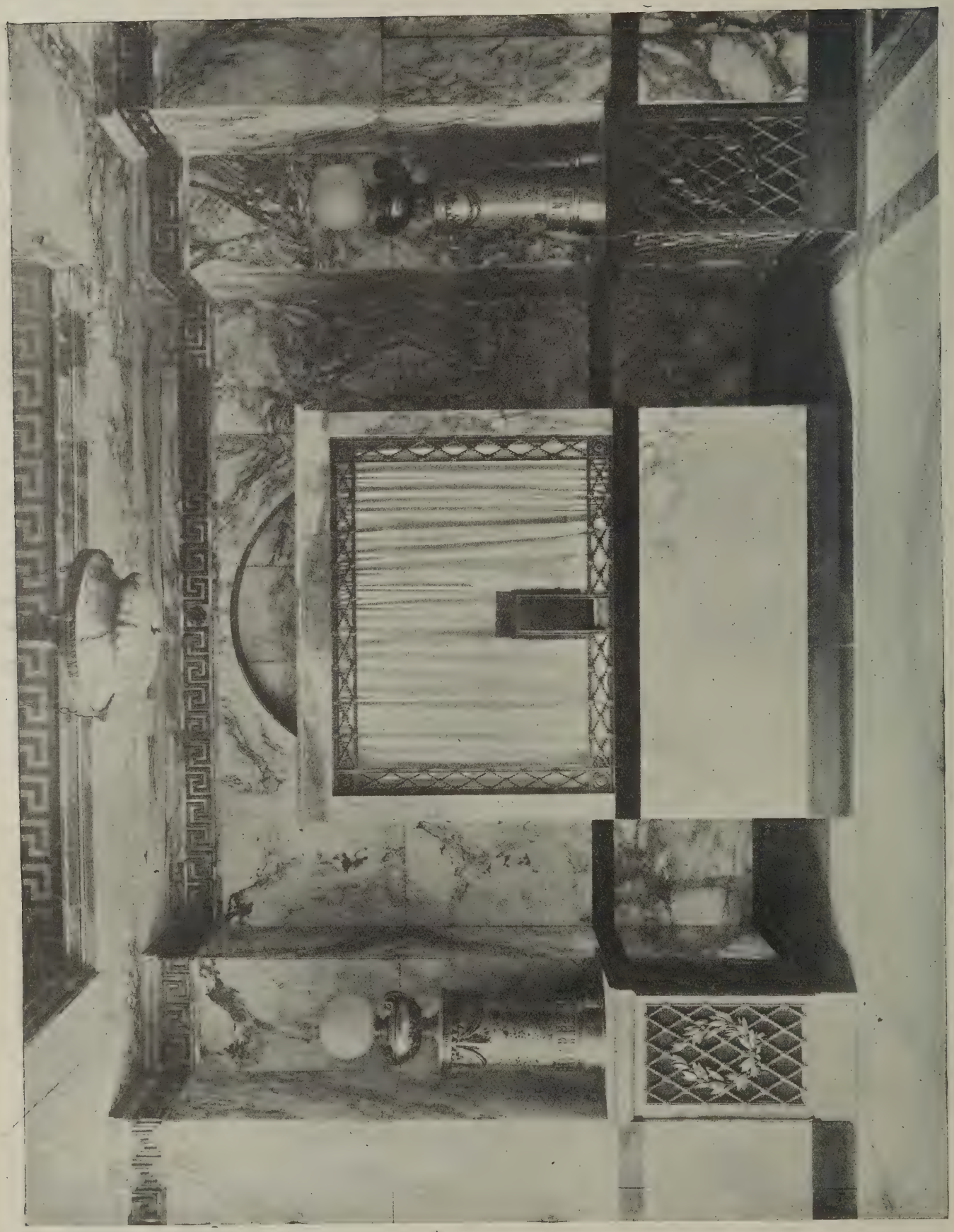
Instances frequently occur in which auditorium is situated to the rear of premises, the theatre being approa through a corridor. The photog below shows an excellent architec treatment for an entrance of this typ

THE NEW PICTURE HOUSE, PRINCES STREET, EDINBURGH: ENTRANCE FRONT.
ATKINSON AND ALEXANDER, ARCHITECTS.

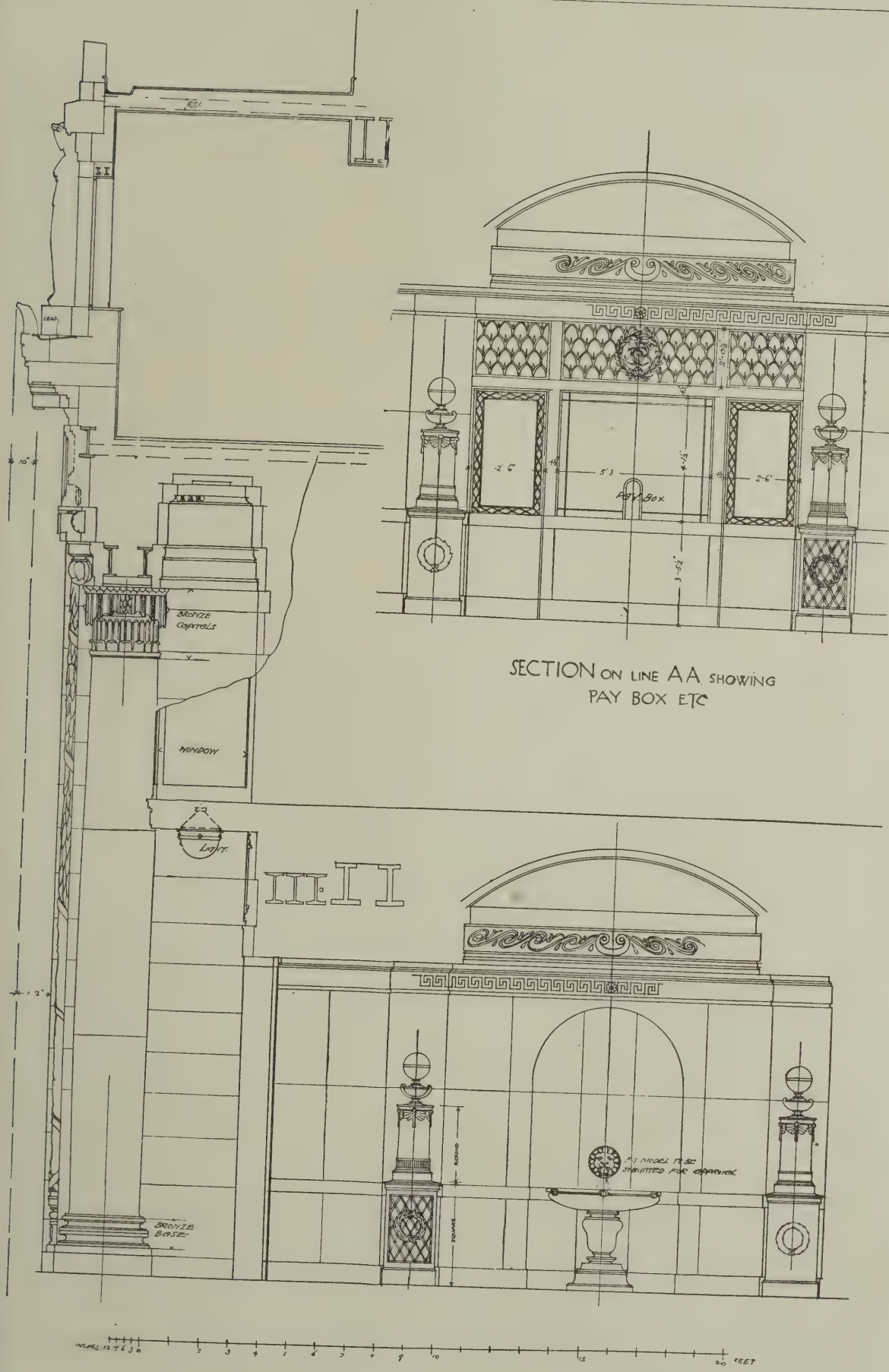


FRONT ELEVATION

THE NEW PICTURE HOUSE, PRINCES STREET, EDINBURGH. ATKINSON AND ALEXANDER, ARCHITECTS.



THE NEW PICTURE HOUSE, PRINCES STREET, EDINBURGH. DETAIL OF VESTIBULE. ATKINSON AND ALEXANDER, ARCHITECTS.



THE NEW PICTURE HOUSE, PRINCES STREET, EDINBURGH. ATKINSON AND ALEXANDER, ARCHITECTS.

Morley and Ossett Cinema Theatres

The Morley Picture House, situated in Queen Street, was designed for and built by the late Mr. Harry B. Hylton, and after completion was transferred to the present owners under the name "The Picture House, Ltd., Morley." The drawings generally give an idea of the methods of construction and materials employed, which are those commonly adopted for a building of this class.

The Ossett Picture House is built on a site to the right of the town hall and faces into Town Hall Square.

Comparison between the two plans shows points of general similarity, and both picture houses have given general satisfaction, particularly in regard to interior comfort. No special system of ventilation was employed, inlets being provided to admit fresh air, with extracts in the ceiling connected to the main fixing in the roof, which contains the extractor fan. Ceiling grids, in the opinion of the architects, Messrs. Schofield and Berry, should be placed away from the centre of the building, so that fumes of tobacco are drawn away from the path of the picture.

The contractors for the Ossett Picture House were as follows: Brick and stone, Mr. Paul Rhodes, Leeds; carpenter and joiner, Messrs. Land and Nettleton, Ossett; slater, Messrs. Atkinson and Son, Ltd., Leeds; plumber, Mr. Geo. Thompson, Leeds; plasterer, Mr. Thomas Moore, Leeds; painter, Mr. Thomas Lewis, Leeds; electrical equipment, Messrs. Wallis and Watson, Leeds. The heating engineers were Messrs. Rosser and Russell, of London, Leeds, etc., and the ventilating engineers, Messrs. Walker and Company, of Halifax.

Penylan Cinema Theatre, Cardiff

This cinema was erected by Messrs. Tucker Bros., contractors, of Cardiff, from the designs of Messrs. Willmott and Smith, architects, of Cardiff. It is a suburban cinema, small in size and difficult to plan by reason of existing buildings upon either side. The accommodation is approximately 750.

The small cost involved (£4,000, inclusive of furniture, pre-war) did not allow an elaborate building, and the utmost use had to be made of the small site available. The lantern room is consequently placed above the balcony in order to allow the latter to be as large as possible. There is a sliding roof, which has proved very successful during the hot summer months.

The architects have selected this cinema from the large number which they have designed and carried out because they that the result obtained is relatively n successful by reason of the small sur money available and the difficulty of stricted site.

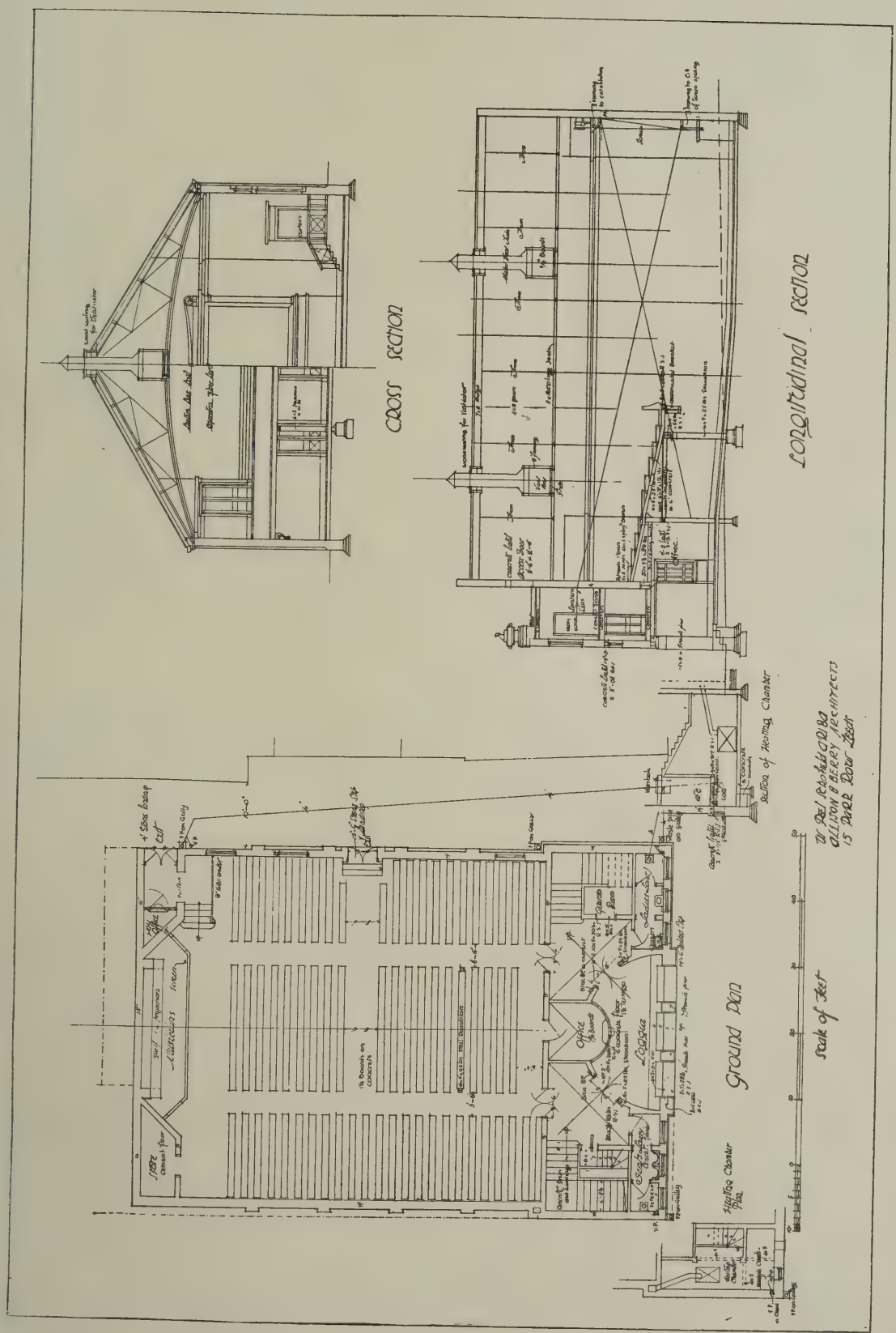
The frieze of dancing figures is in b silhouette on a pale blue ground.

The balcony is constructed wholly reinforced concrete on the system Messrs. the Expanded Metal Co. London. The heating, which is by pressure hot water, was carried out b Hampton Heating Co., of Cardiff. electrical work was executed by R Nance, of Cardiff. The whole of th corative scheme was designed by the a tects and carried out from their full details by Messrs. Boekbinder, Lo An attempt has been made in these d to invest the interior of the building a definite architectural motive, simp distinctive.

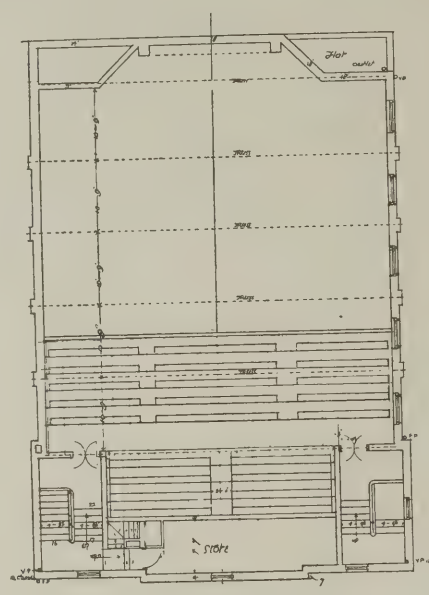
Cinema in Bute Str Cardiff

This theatre, which has not yet built, is excellent both in plannin architectural treatment. The ver teresting set of drawings here repr are self-explanatory, but it may be that the ground-floor front elevatio be carried out in glazed f Messrs. Ivor Jones and Percy T AA.R.I.B.A., of Cardiff, are the arc

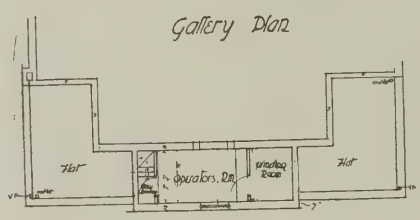
THE PALLADIUM CINEMA THEATRE, OSSETT. W. P. SCHOFIELD, A.R.I.B.A., AND ALLISON B. BERRY, ARCHITE



THE PALLADIUM CINEMA THEATRE, OSSETT: GROUND PLAN AND SECTIONS.
W. P. SCHOFIELD, A.R.I.B.A., AND ALLISON B. BERRY, ARCHITECTS.



Gallery Plan



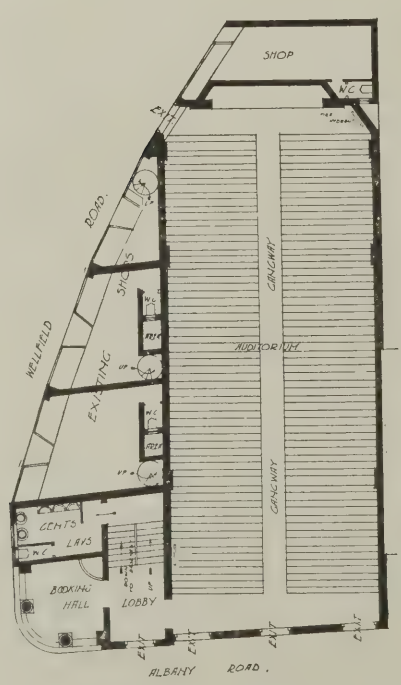
Operators Room

Side Elevation

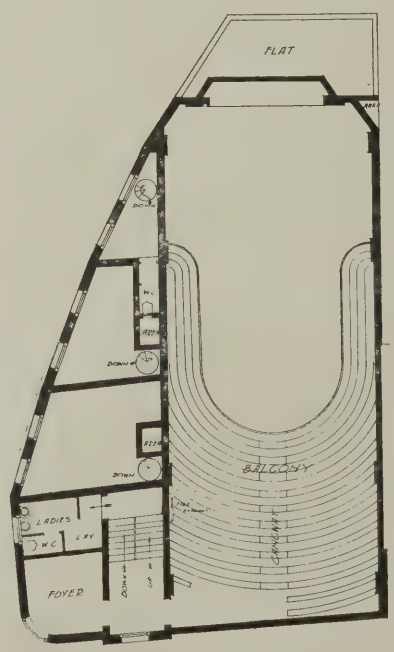
Scale of Feet

THE PALLADIUM CINEMA THEATRE, OSSETT. SCHOFIELD AND BERRY, ARCHITECTS.

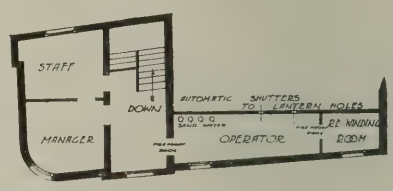
(See preceding pages.)



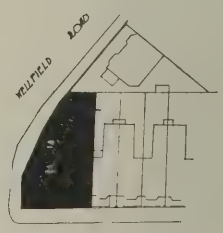
GROUND FLOOR PLAN



FIRST FLOOR PLAN.



SECOND FLOOR PLAN.



BLOCK PL

SCALE OF FEET

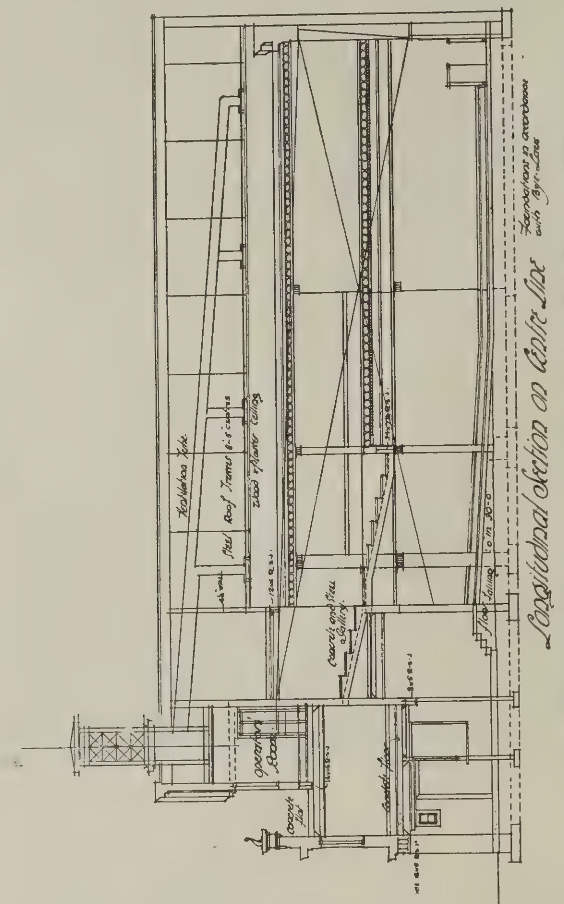
PENYLAN CINEMA THEATRE, CARDIFF: PLANS. WILLMOTT AND SMITH, ARCHITECTS.

View from Balcony.

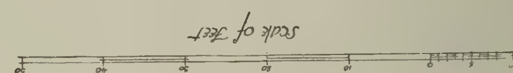
General View of Interior.

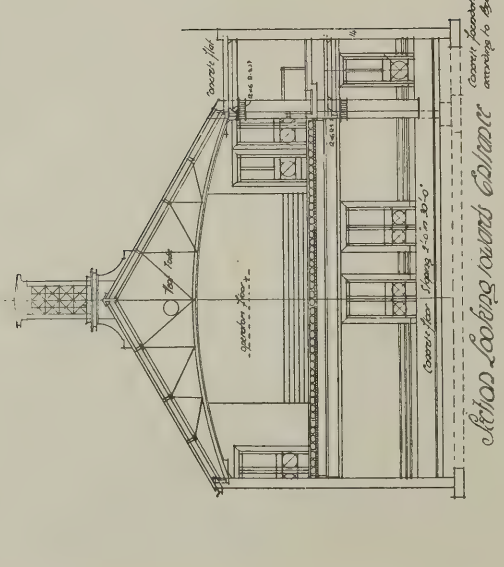
PENYLAN CINEMA THEATRE, CARDIFF. WILLMOTT AND SMITH, ARCHITECTS.

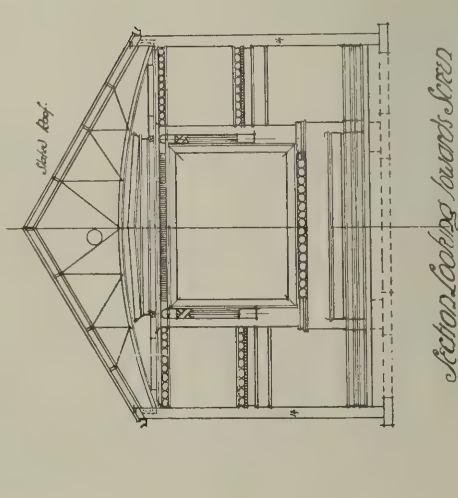
(See page 746.)

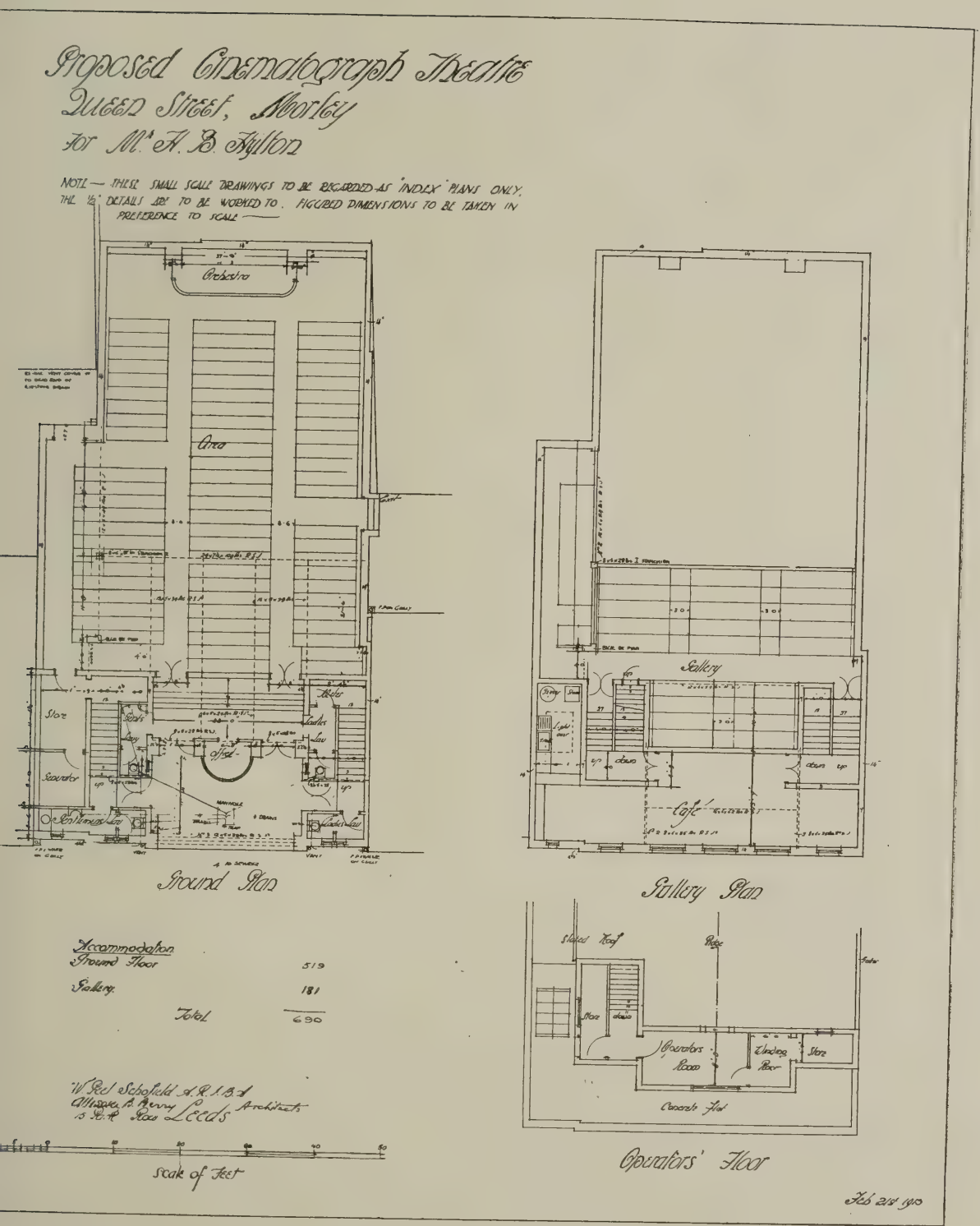

Longitudinal Section on Centre Line

PICTURE HOUSE


Scale of feet

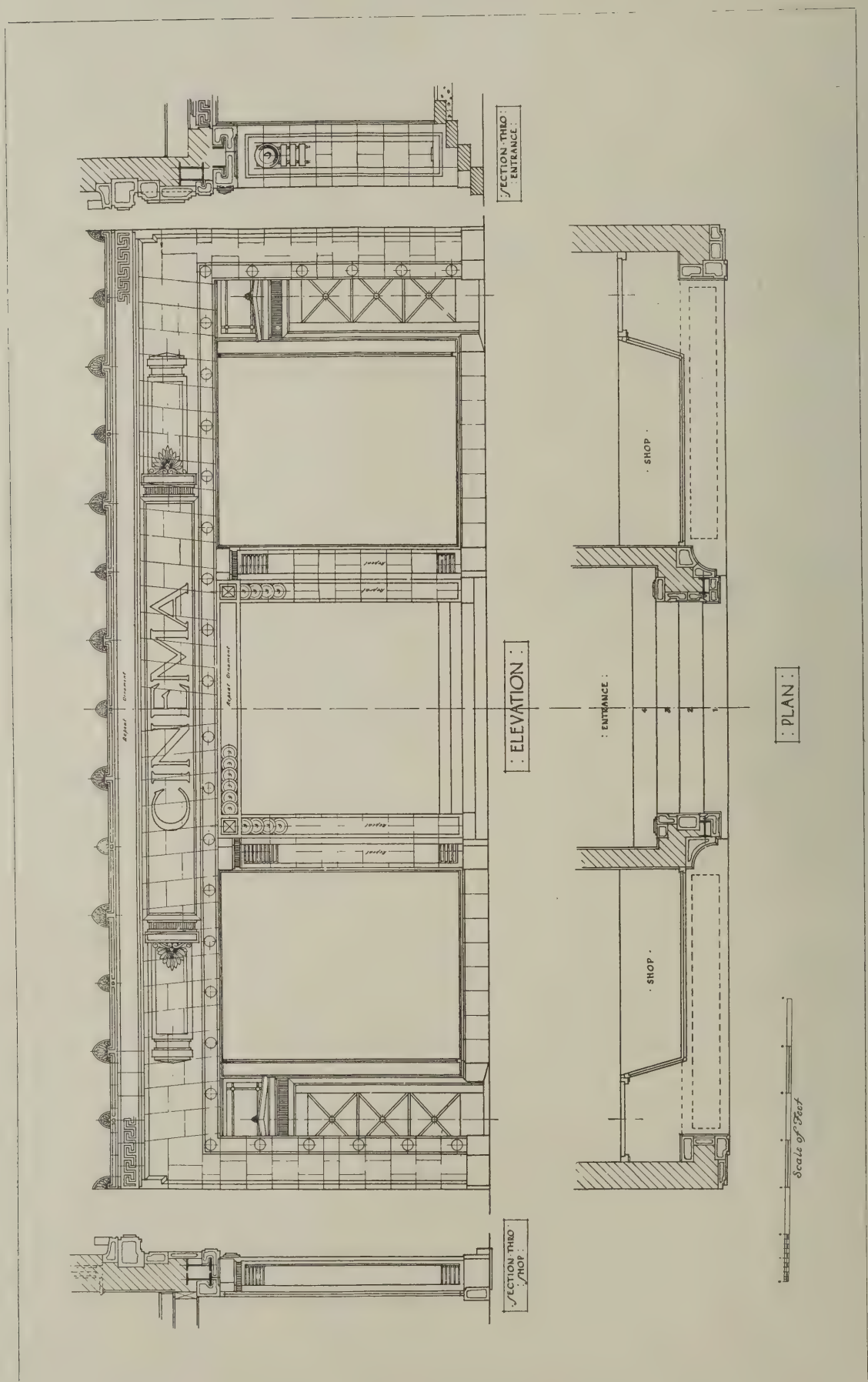

Section Looking towards Entrance


Section Looking towards Screen

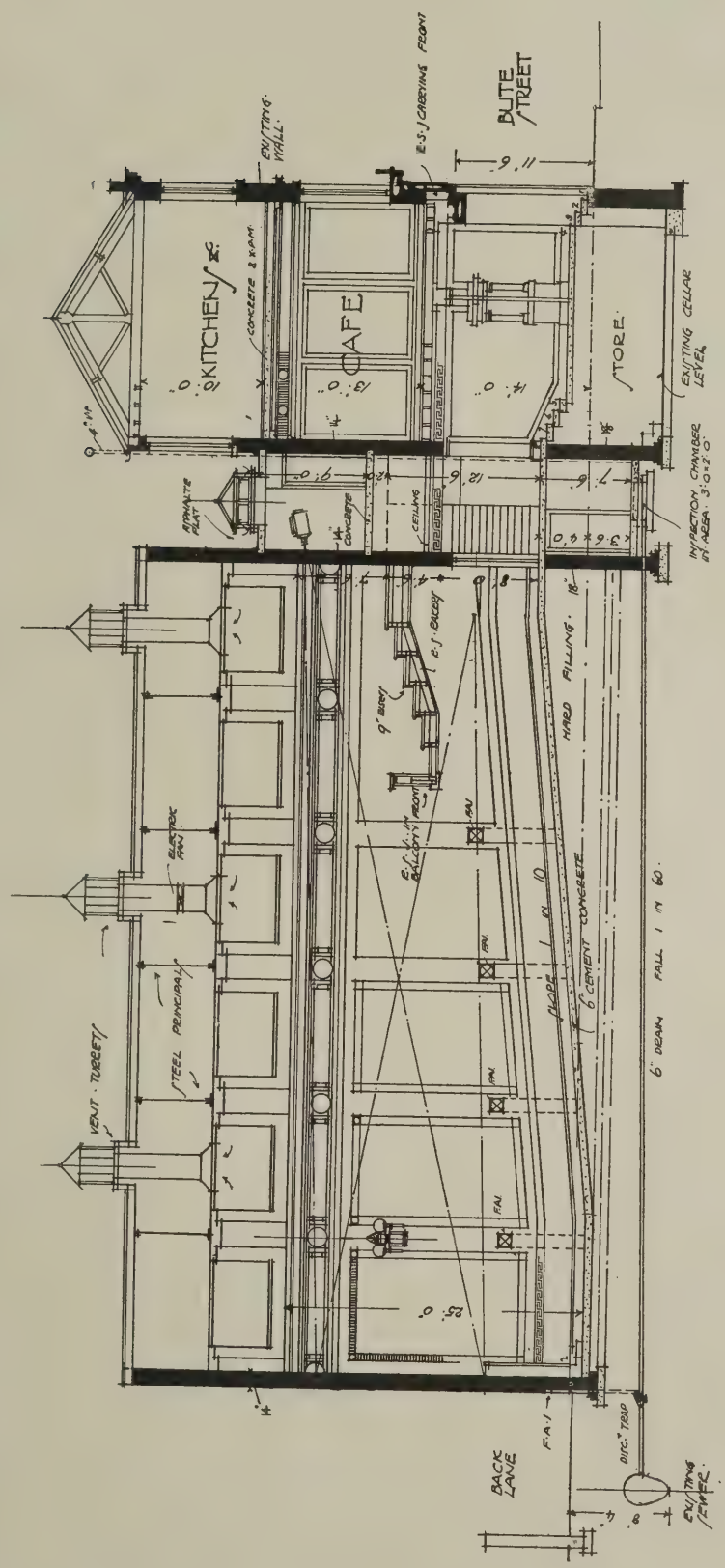


THE PICTURE HOUSE, QUEEN STREET, MORLEY: PLANS. W. P. SCHOFIELD, A.R.I.B.A., AND ALLISON B. BERRY, ARCHITECTS.

(See page 746.)

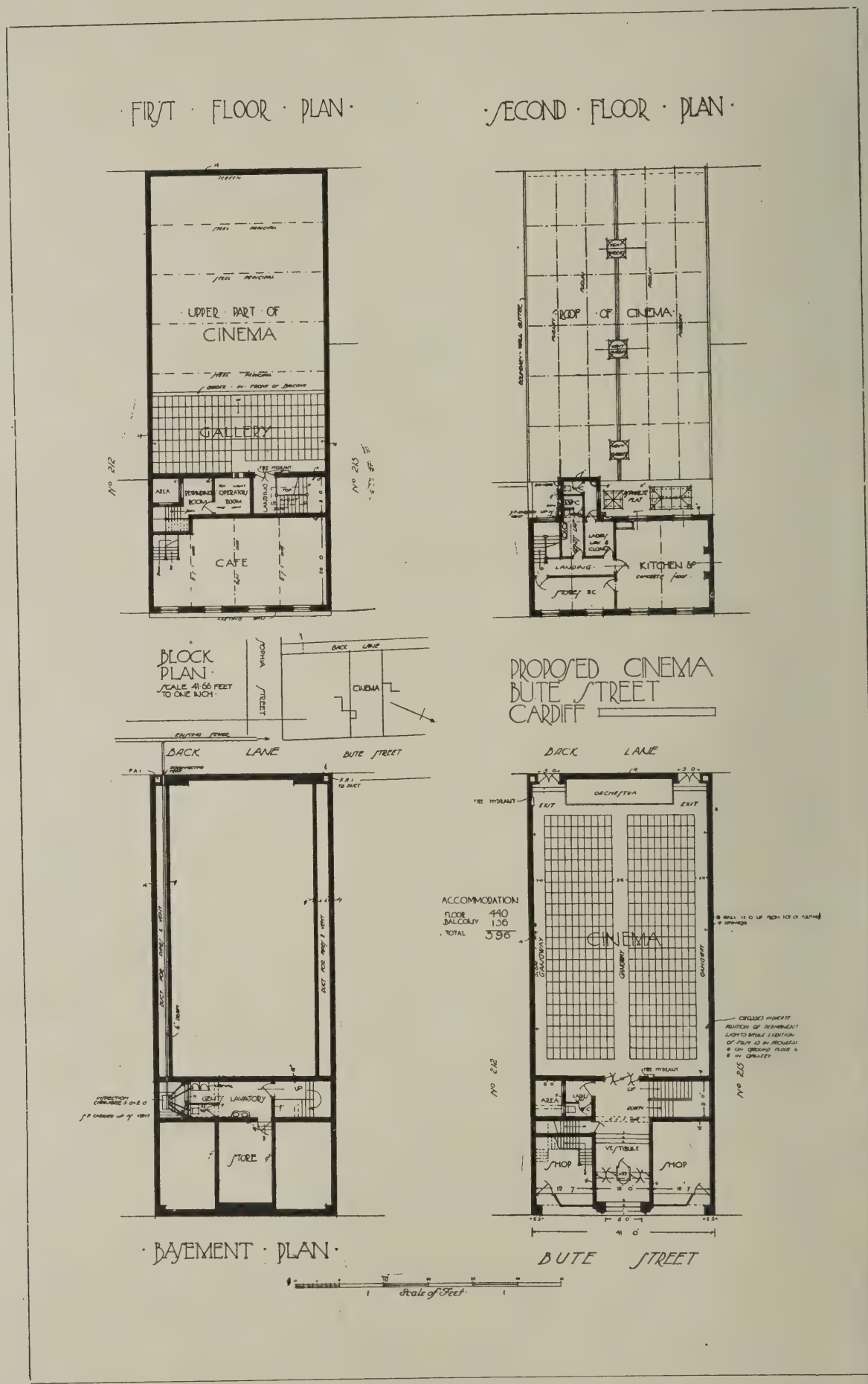


NEW CINEMA THEATRE, BUTE STREET, CARDIFF: DETAIL OF FRONT ELEVATION.
IVOR JONES AND PERCY THOMAS, AA.R.I.B.A., ARCHITECTS.



NEW CINEMA THEATRE, BUTE STREET, CARDIFF: LONGITUDINAL SECTION.
IVOR JONES AND PERCY THOMAS, AA.R.I.B.A., ARCHITECTS.

(*See page 746.*)



NEW CINEMA THEATRE, BUTE STREET, CARDIFF: PLANS. IVOR JONES AND PERCY THOMAS, AA.R.I.B.A., ARCHITECTS.

(*See page* 746.)

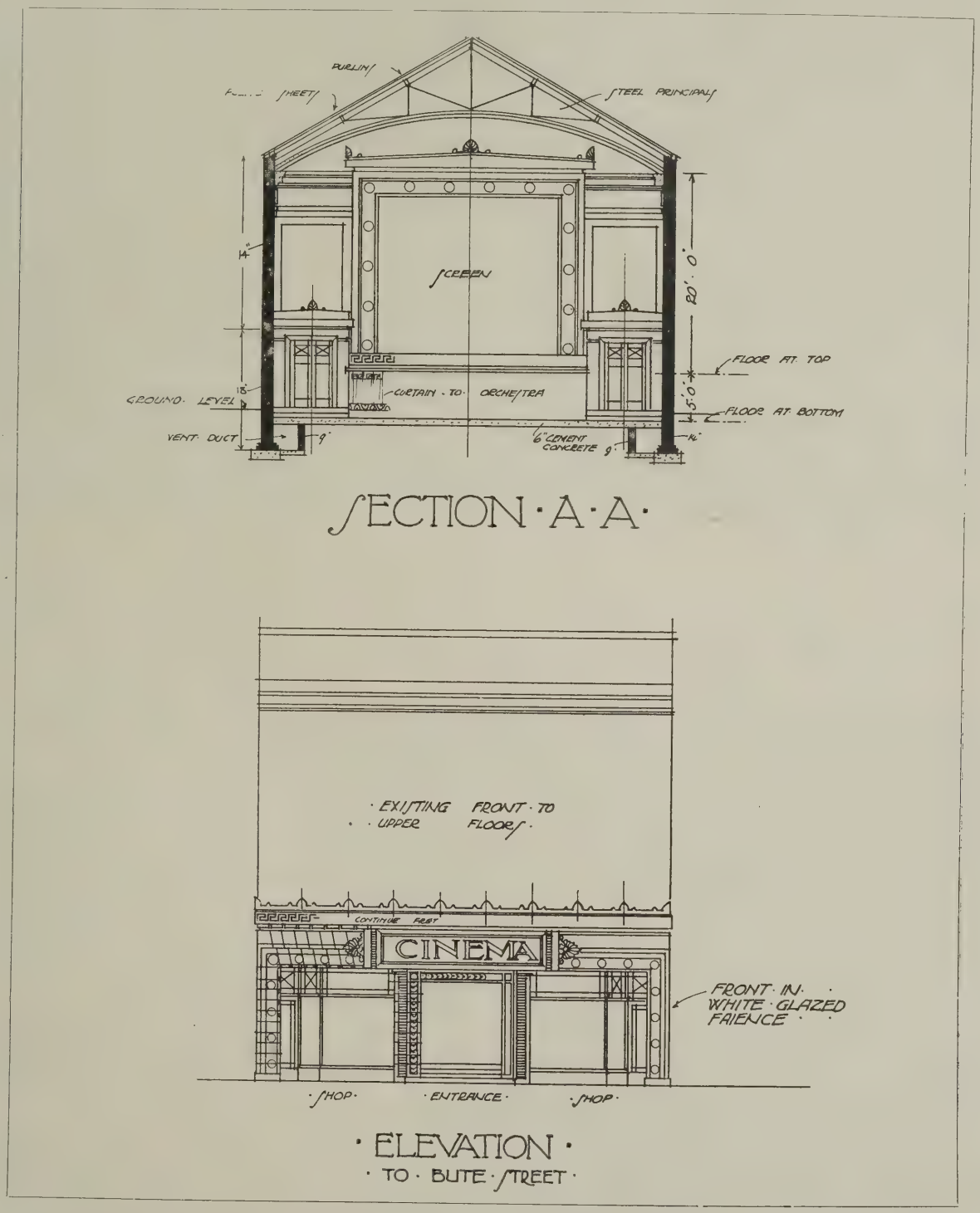
The Picture House, Doncaster

The land on which this theatre is erected somewhat unique in its disposition, the e for the auditorium being almost tirely isolated from the main road. ıe problem placed before the architect, E. H. Walker, A.R.I.B.A., of Don- ɜr, was to plan a theatre accommo- ıg about a thousand persons (every ɔf whom should have an uninterrupted of the screen), possessing good stic properties and providing the test comfort for patrons.

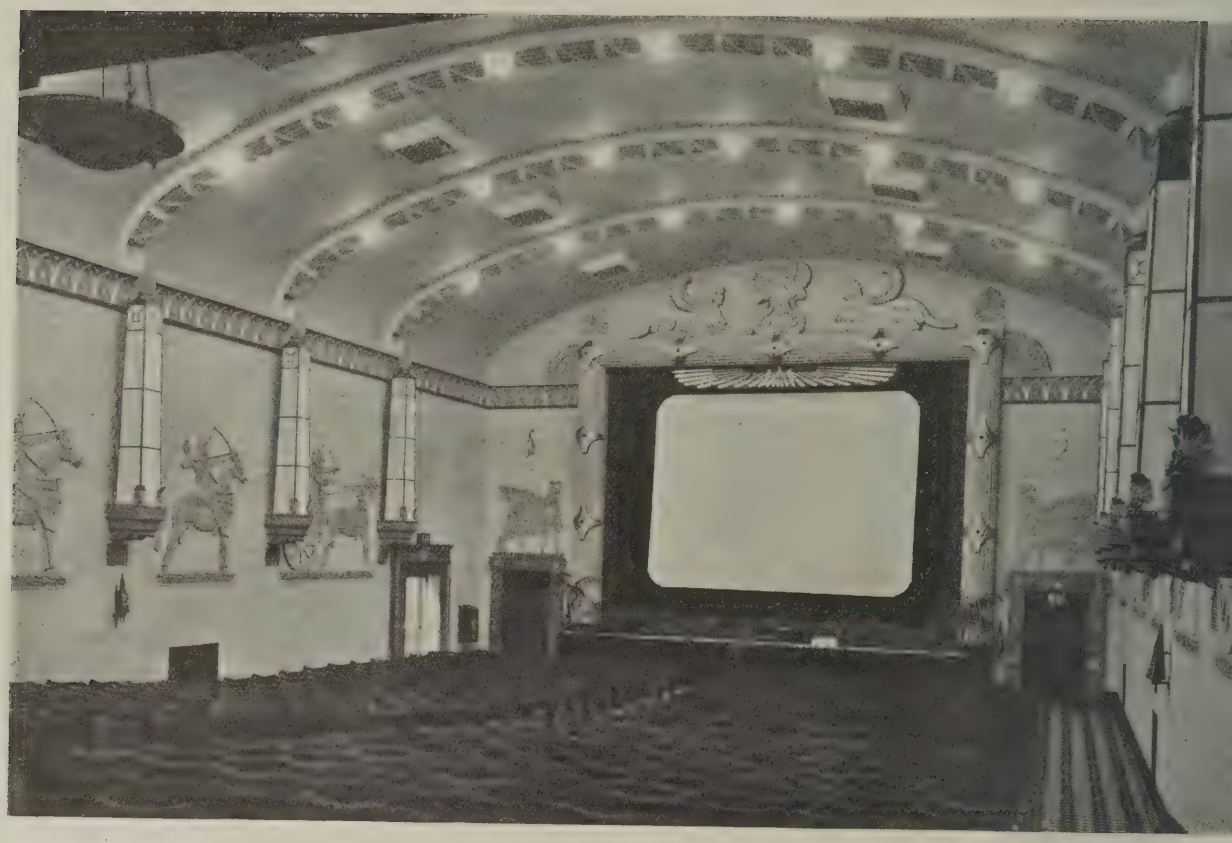
ıe auditorium is 100 ft. by 50 ft. and ɣwhere there is a feeling of ample e, and comfortable seating accommodation. The walls are coloured lilac and from the various panels there stand out a series of Assyrian figures in Ivorine tint. Between these figures are fine pillars rising to the ceiling. From these, during the performance, there is thrown out a subdued, crimson-coloured light; therefore the hall is never in darkness, even while the pictures are being screened.

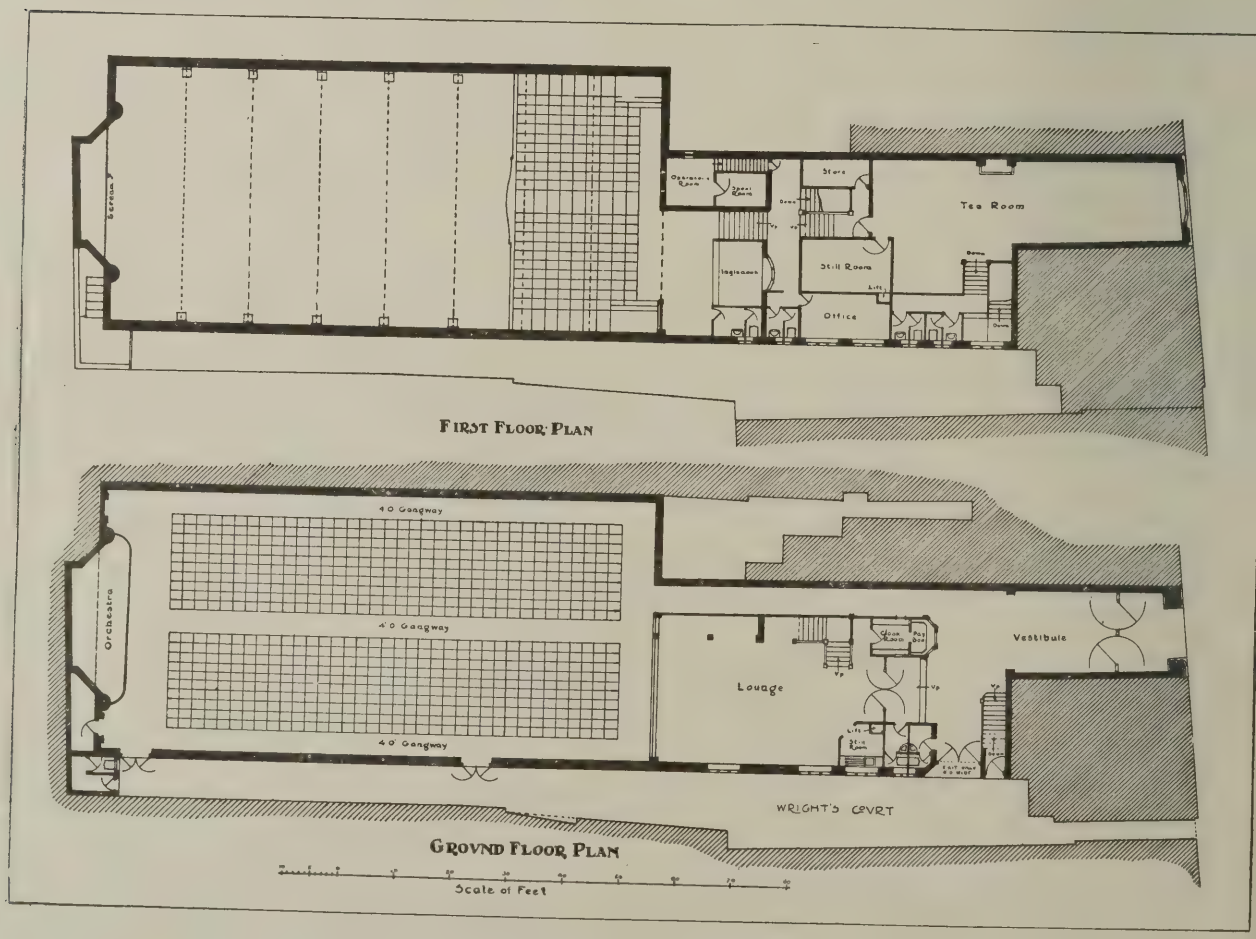
The building is constructed of reinforced concrete and brickwork, and is equipped with the latest fire appliances. The electric lighting current is taken from the Corporation. An excellent system of ventilation and heating has been installed, and the air is changed no fewer than nine times each hour. The fresh air is forced into the building by means of a large "Sirocco" blower fixed in the basement and the air is washed by being drawn through a series of fine wet screens which absorb all impurities. The air is also passed through heaters, which raise it to a suitable temperature. Extract ventilation is also obtained by means of electric fans drawing the vitiated atmosphere through square grids in the ceiling.

The total seating capacity of the building is about 1,000, irrespective of cafés and lounges. The floor of the auditorium and balcony slopes are arranged so that not a single person who enters any part of the house can fail to see the whole of the screen. The spacious balcony has a lounge at the back, in which tea and coffee are served. The balcony alone seats 200 persons, and those in the lounge are able to command an uninterrupted view.

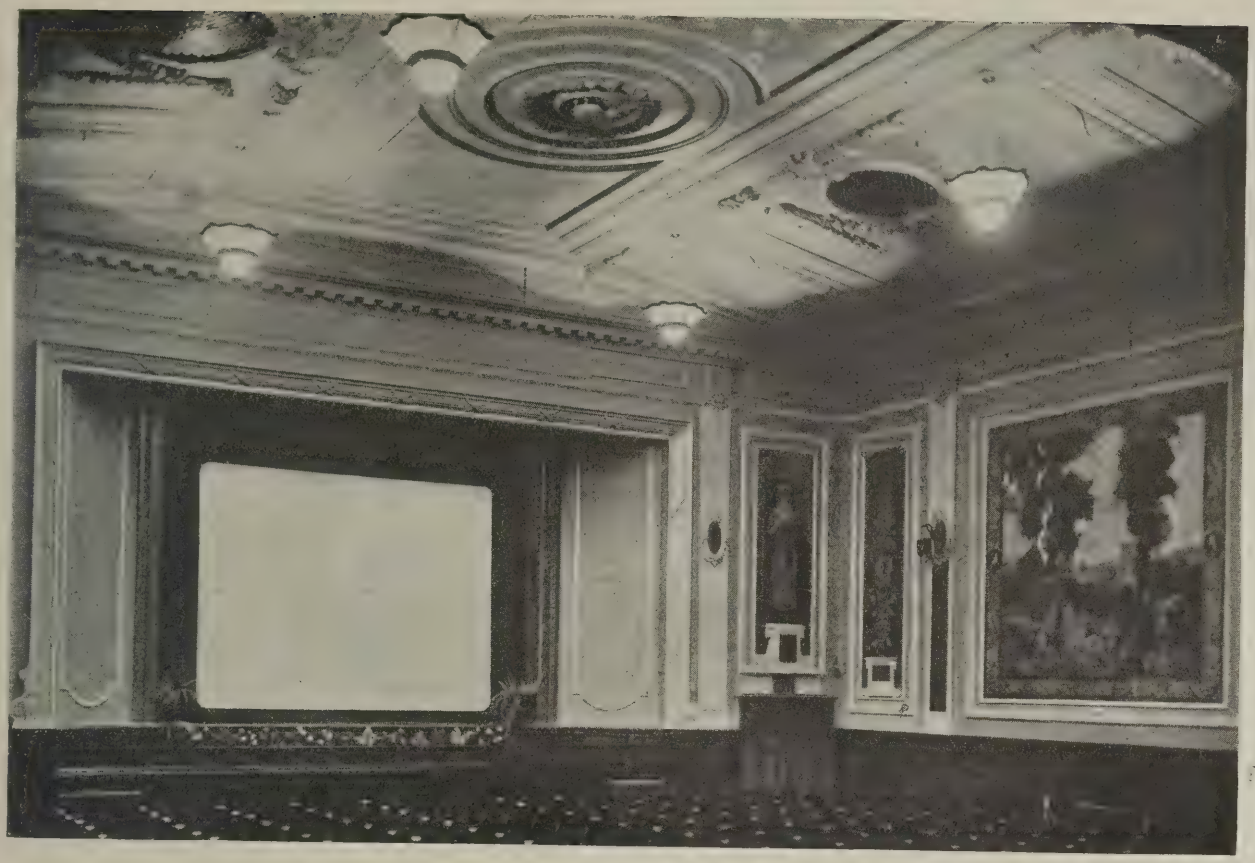


NEW CINEMA THEATRE, BUTE STREET, CARDIFF. IVOR JONES AND PERCY THOMAS, ARCHITECTS.





THE PICTURE HOUSE, DONCASTER. E. H. WALKER, A.R.I.B.A., ARCHITECT.



THE PICTURE HOUSE, SOUTHAMPTON. FRANK MATCHAM AND CO., ARCHITECTS.

ıe general building work was carried by the proprietors, the Picture House ncaster), Ltd., and the other contrac- were as follows:—Reinforced con- work, Messrs. C. Marsden and Son, radford, who also did the plastering; tructional steel-work, Messrs. Henry ett and Sons, of Bradford; decorations, rs. Waring and Gillow, of Manchester.

The Picture House, Southampton

is theatre provides seating accommo- n for 1,200 persons, including the ny, which, seating about 400, is built he cantilever principle. Entrances exits are provided on three street- s. The ventilation of the theatre is successful—what is known as the " being entirely eliminated. The or walls are decorated with paintings panels by Mr. G. W. Rushton, Head swich Technical College. Tea rooms an open roof garden overlook the A spacious vestibule and foyer are led.

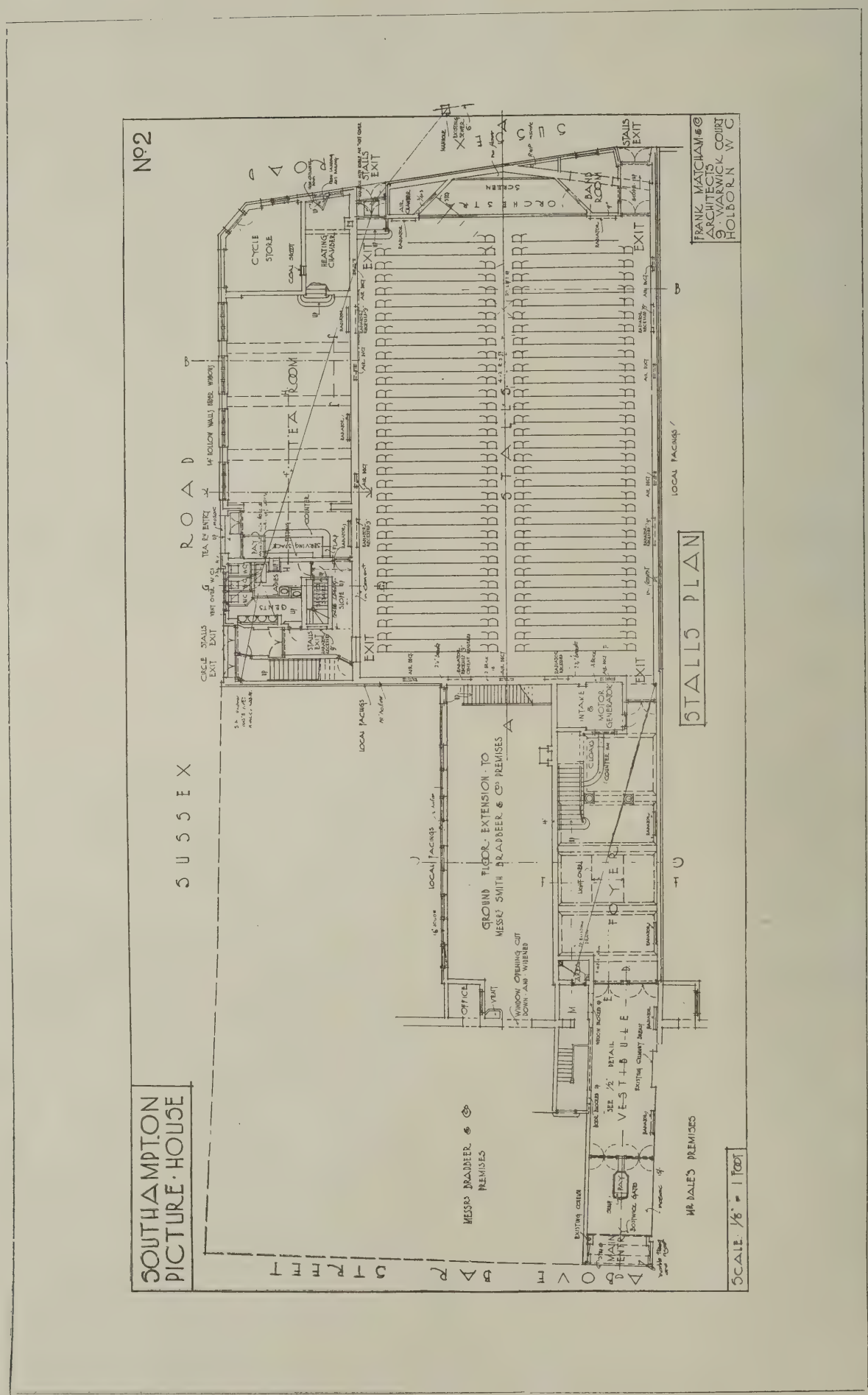
Cinema Theatre, Birmingham

plans illustrated on page 759 are of ma theatre to be built upon the site e existing obsolete theatre, which, ally a chapel, has been con- d by the Licencing Authorities of ngham. The site, though a small ular one, lends itself admirably to ıre theatre.

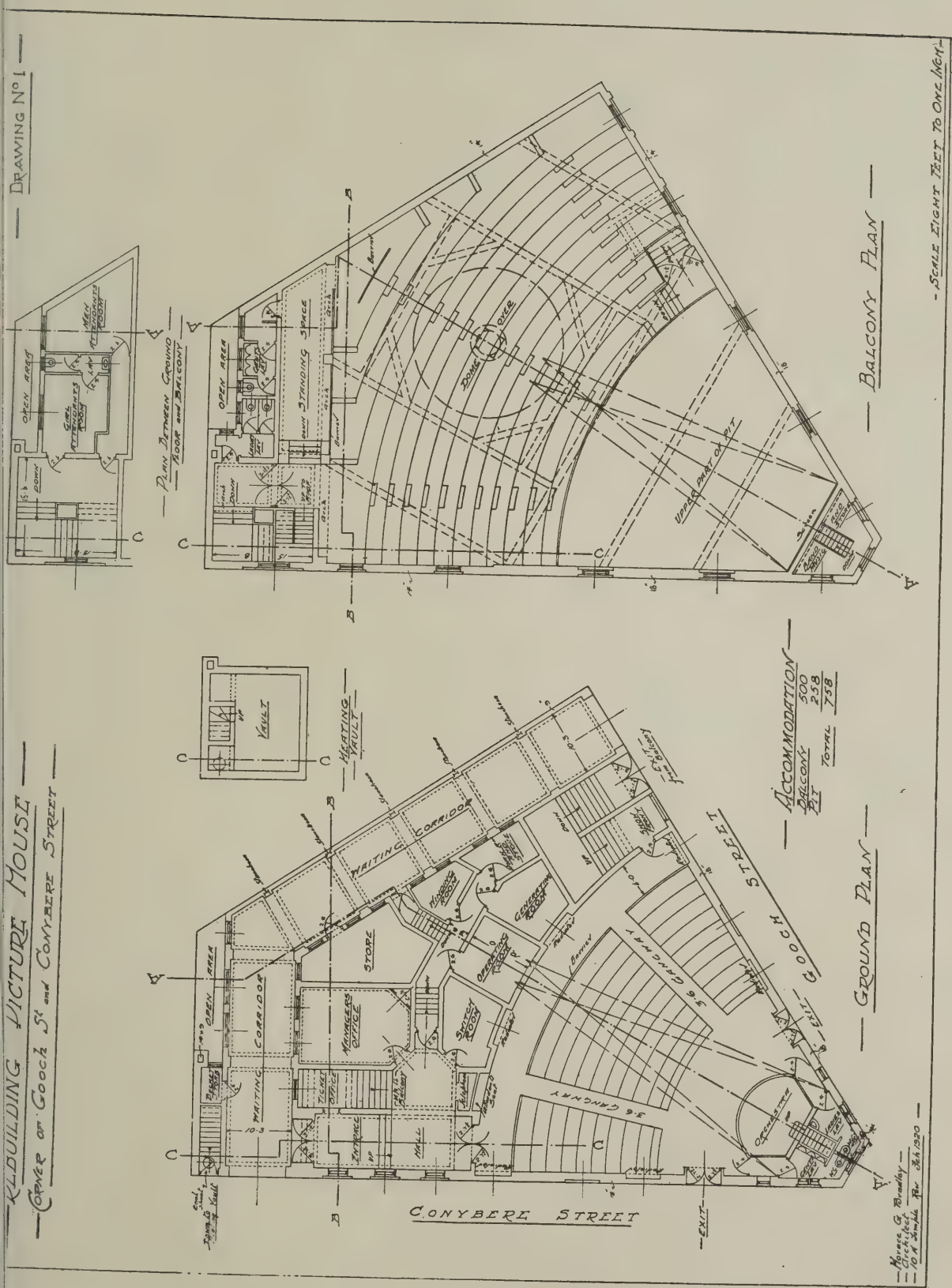
building accommodates nearly 800 , and is of fire-proof construction hout. The operating chamber is placed in a convenient position under the balcony.

As all waiting queues have to be contained upon the theatre premises, a waiting corridor became a necessity, and this is arranged under the balcony, the queues being under cover and approached from Conybere Street and Gooch Street. Mr. Horace G. Bradley, of Birmingham, is the architect.

DECORATIVE PANEL, "GERAINT AND ENID," IN SOUTHAMPTON PICTURE HOUSE. PAINTED BY G. W. RUSHTON.



THE PICTURE HOUSE, SOUTHAMPTON: STALLS PLAN, FRANK MATCHAM AND CO., ARCHITECTS



CINEMA THEATRE, GOOCH STREET AND CONYBEARE STREET, BIRMINGHAM: PLANS,
HORACE G. BRADLEY, ARCHITECT,

(See page 757.)

Special Methods of Cottage Construction
A Review of the Year's Work

By A HOUSING EXPERT

SO soon as the attention of the nation could be released from the pressing necessity of concentration upon the war, it turned to its own internal problems of reparation, construction, and re-organisation. Of these, it at once became apparent, the most urgent was the erection of a vast number of houses. Simultaneously, however, it became obvious that there would inevitably be a very great shortage of the essential materials—of materials that had hitherto been regarded as essential in small house construction. Of these, the most important was bricks; others were timber and roof coverings; moreover, even where obtainable, these materials were extremely costly, and this fact was partly due to the extreme difficulty—owing largely to the depletion of rolling stock—of transport. At once, therefore, a vast flow of inventive ingenuity automatically directed itself to the devising of methods for building small houses in such a way that these difficulties would be partially overcome. It will be remembered that already before the war there existed a number of substitute materials, and already attempts had been made to devise cheaper methods of construction—notably by using concrete in place of brickwork—so that it may be said that the situation after the war gave a very great impetus to an incipient movement to experiment with new building methods and materials.

For State-aided houses—and these represent by far the majority of small dwellings that are now in course of erection—a new form of construction, before it can be used, must be approved by the Ministry of Health. Since the war more than a hundred such systems have been approved. Many of these systems, however, have failed to prove of any real practical value towards the solution of the problem. Their failure is due, not so much to any inherent structural defect as to the fact that they are commercially or mechanically unsound. The former defect may be due to the fact that their inventors are deficient in commercial acumen and knowledge, or that they lack the necessary capital and are thus unable to organise and distribute their ideas, or the first defect may be the outcome of the second; the system may be so complex that it must inevitably be costly, either to manufacture the parts or to erect them, or in both these respects.

The two essential qualities for a successful system are—provided always that it fulfils its purpose structurally—simplicity and adaptability. The latter essential requires, perhaps, some explanation. Many systems will only erect a particular shaped house, or a house built to certain dimensions, or to a certain unit. All such impositions are detrimental to good building. All materials have their limitations, but these must not impose undue restrictions. A somewhat exaggerated analogy might be made in this way. An ink that could only be employed with a certain style of handwriting would not be a valuable invention; on the other hand, everyone realises the different functions for which writing and indian inks are suitable.

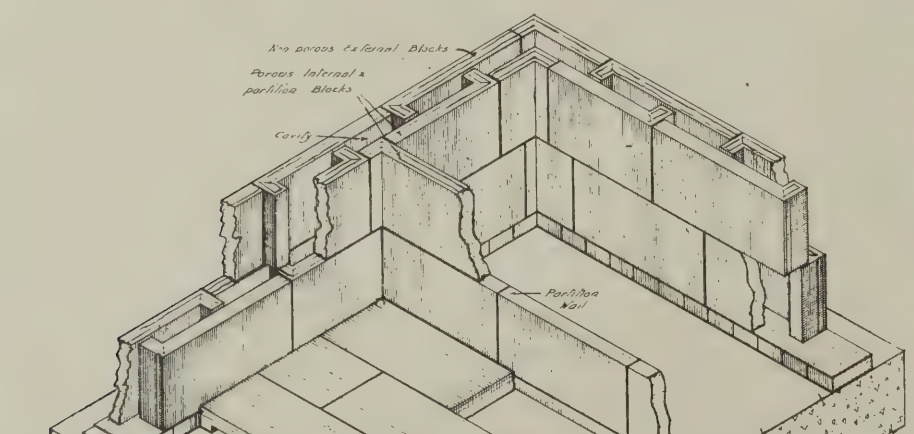
The year which is just closing has afforded a useful period for testing many of these new systems, and the present moment is therefore an opportune one to investigate the more successful of the many attempts that have been made. For the purpose of examination it will be best to consider the systems under certain headings.

Concrete Blocks.

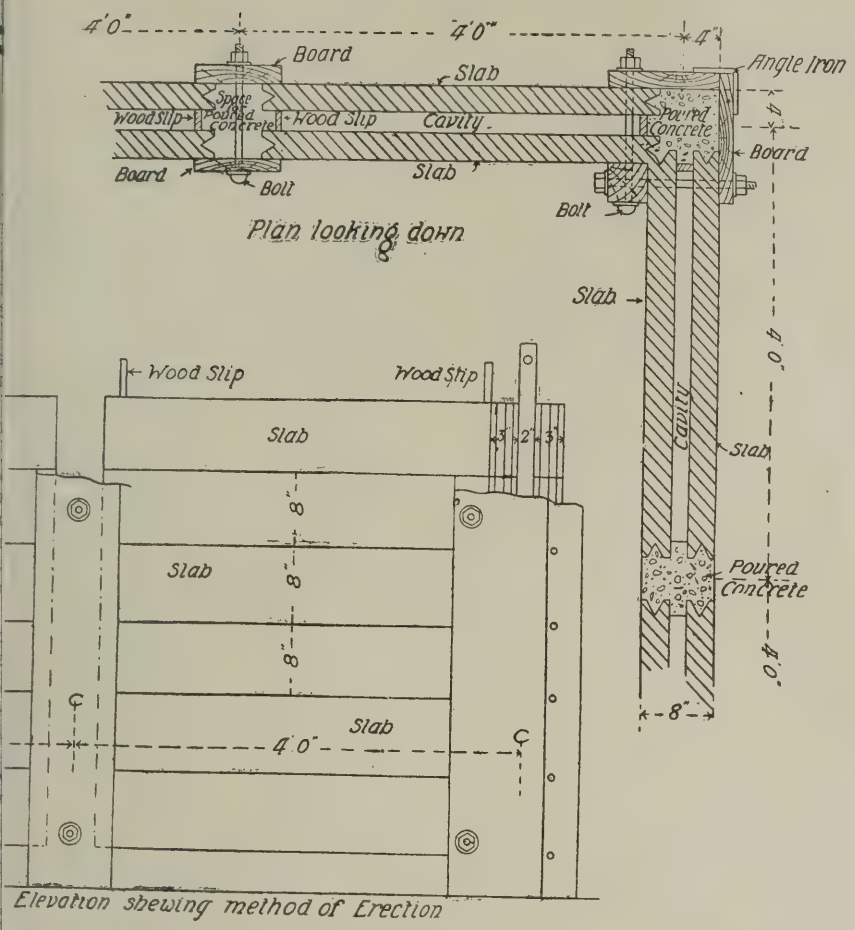
A large majority employ concrete in some form. The simplest method of employing concrete is in the form of a rectangular block or slab. The wall is then erected similarly to a brick wall, with a cavity and metal ties. It is usual to make the inner portion of a porous aggregate, in order to obtain a low thermal efficiency. Many blocks are made with nibs or sinkings; for the most part these constitute a source of weakness rather than strength, because they are added after the mai tion of the block is tamped. It may be mentioned at the outset, and it be remembered throughout, that so of the inefficient and unsatisfactory r with concrete work are due to the wrong materials, or right material properly mixed; thus, although of the work is unskilled, expert conscientious supervision is esse The most usual way of making crete blocks is by means of the ser system on a pressure machine. T the most expeditious method, but it a loss of strength in the concrete, it be kept moist during the proce seasoning. There are many h schemes in which block machines been and are being used with grea cess. At Chepstow, for instance, s hundreds of houses have been bu blocks made with a Winget machine great variety of treatment, both as r planning and elevation, is obtainable

In some cases the cavity is obtai means of a hollow block, so that the wall is built up in one operation. Léan block, for example, has thr cavities, and it has been used both and since the war; work has just commenced on a large scheme Chester-le-Street R.D.C., which is carried out by direct labour. example of a block which is cast projection to form a bonding betwe two leaves of the wall, mention mi made of the Bonding Block Constru Company, who make an "L" block (see Fig. 1), the nib having a clearance in the cavity. In this w cavity is continuous on every cours any weight that the wall carries is distributed on both leaves. A hou just been finished by this method Ministry of Agriculture and Fishe Amesbury.

At Liverpool a large contract for c construction has been entered i 2,000 houses, which are to be con by the middle of 1922; 1,332 are type and 668 non-parlour. In a sch this magnitude there is much sc scientific organisation, which is co towards rapid construction. The is one of concrete blocks. The wa carried out with a T-shaped slab. block has a tongue on the top edge corresponding groove on the lower T-nib on the inner and outer leaves main walls replaces the usual me without obstructing the cavity. shaped blocks are made for windo door jambs, lintels, steps, string-c and foundations. The contract is carried out by the Economic Buildin poration, Ltd., and originally the were made by hand in aluminium Now they are made in specially a Winget machines. A special facto been erected on the site for the m ture of the blocks. The scheme 85 per cent. ex-Service men, of 90 per cent. are unskilled. The scheme is organised on thoroughly lines, and the maximum use is mechanical power. In such an en the fullest use is made of the adv that a concrete system of building



I. "L"-SHAPED CAVITY BLOCK (BONDING BLOCK CONSTRUCTIONAL CO.).



"DUO-SLAB" CONSTRUCTION.

concrete brick is another attempt et the difficulty of making and orting clay bricks. The advantages are, apart from those mentioned that it presents no unfamiliarity in ng. On the other hand, no attempt le to substitute unskilled labour for . The most usual medium for g the bricks is the Vickers machine, e Folkestone Borough are making thousands from their own destructor , which they are using on their own g scheme.

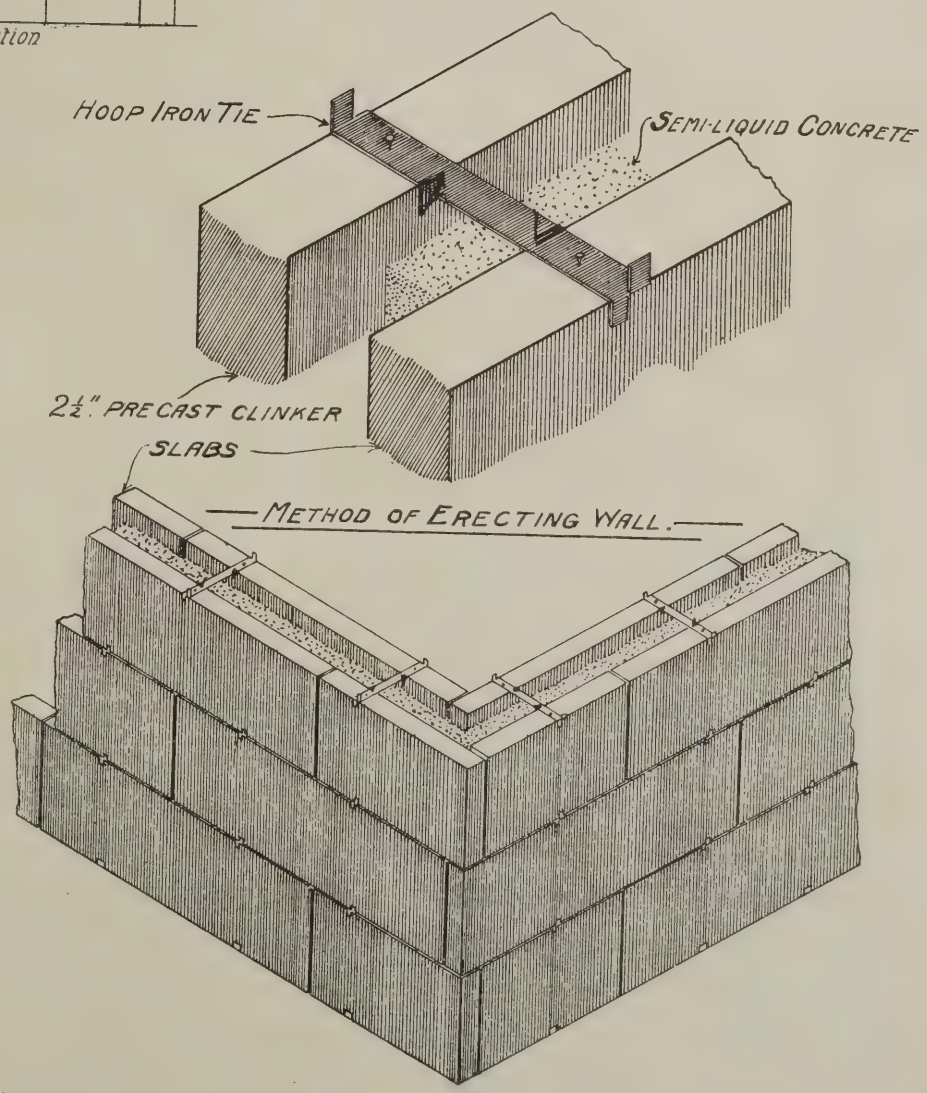
Composite Systems.

all blocks, however, are made on system. A very large scheme is gress in Leeds at which the blocks de wet in moulds. This system, r, comprises other elements in n to the blocks. It is known as the Slab" system, and combines slabs onolithic stanchions (see Fig. 2). thod of erection is to fix temporary shuttering for the piers or stan- at 4 ft. centres. The blocks are h the ends some 3 in. apart behind ttering. It is a cavity wall and the the cavity are temporarily stopped ood slips, and into this space con- poured, forming the pier and bind- whole into a monolithic structure. cks or slabs, which are 8 in. in y 3 in. in thickness, are made in of thirty-six on the actual site house. The mixture is placed in ds, each of which is divided into mpartments by means of dividing s each mould is filled and tamped red with paper and another placed f it, and the process repeated until n is finished. As soon as the set n to take place the moulds are l and re-used. The labour required in erecting the walls is almost entirely unskilled.

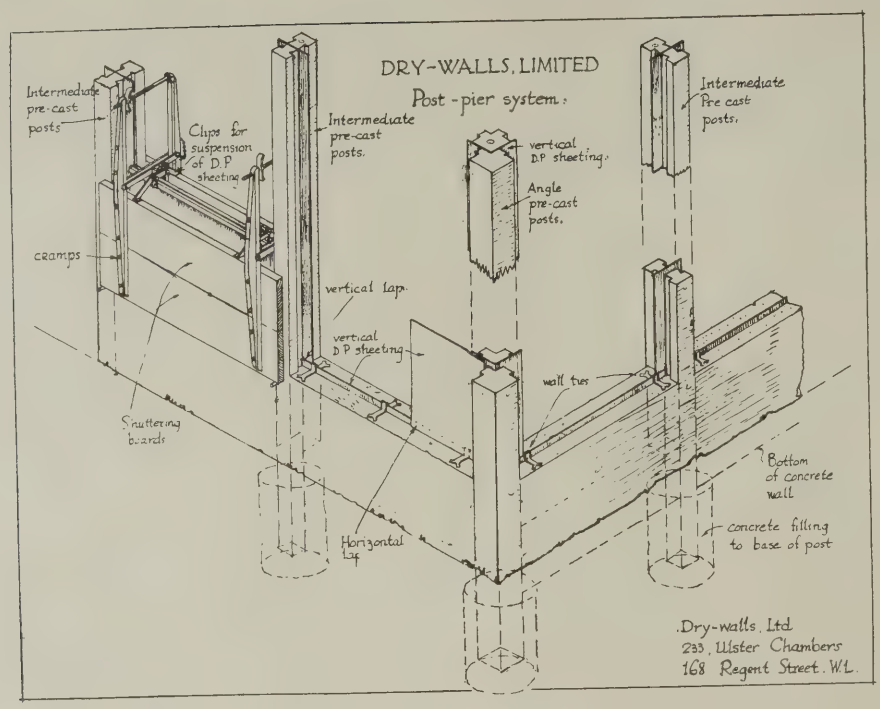
The Fidler system (see Fig. 3) is another composite one that makes use of the block and the "*in situ*" elements. Two and a half inch pre-cast clinker slabs are built above damp-proof course level. These blocks are accurately held in position by means of a special hoop-iron tie that is split at the ends and bent up and down to hold the block immediately above and below it. On the inside of the block a small piece is also turned down to grip the inside of the blocks. Concrete is then poured into the cavity and the clips effectually prevent any movement of the blocks. When the work is completed the clip portions of the ties are cut off and the external face of the wall is rendered. This system of concrete walling is in use on a scheme at Hayes that is being carried out by the Urban District Council.

Monolithic Concrete.

So far we have dealt only with concrete systems that employ blocks as an integral part of their composition. In passing on to the consideration of monolithic methods we approach less familiar ground, less familiar, that is, as a system for small dwellings. The main difficulty lies, of course, in the shuttering. It is costly to provide unless it is to be used many times, and this entails much repetition of design. It is, moreover, difficult to keep walls plumb. In America various complicated



3. THE FIDLER SYSTEM OF CONCRETE BLOCK CONSTRUCTION.



4. POST-PIER SYSTEM OF CONSTRUCTION (DRY WALLS, LTD.)

systems of shuttering are in use; indeed, this method is more frequent than the block unit, but, nevertheless, it would not appear to be so adaptable or suitable for cottage work. Satisfactory work has, however, been carried out on these lines, and no doubt as the result of experience improvements and simplifications will be made.

Just as in certain block systems solid piers are used at intervals, the intervening bays only being built in blocks, so in some monolithic methods block piers are built against which the shuttering is fixed (see Fig. 4). It considerably simplifies the shuttering if a solid instead of a cavity wall be built. In order, however, to be able to construct a certain portion of the thickness with a porous aggregate, it becomes necessary to divide the wall into two parts. Messrs. Dry Walls, Ltd., have invented an arrangement by which a vertical damp course of bitumen sheeting is suspended down the centre of the wall by patent clips. Each sheet is properly lapped, both at its vertical and horizontal joint, and the two portions of the wall are united by patent wall-ties that do not puncture or tear the sheeting. The wall is made 6 in. thick, and the piers are rebated to take the liquid concrete and the sheeting. This system has been adopted by the L.C.C., and houses may be seen at Acton. At Deptford monolithic houses are in course of erection which are built on a somewhat different system. A hollow concrete wall is obtained for the outside walls by means of the Forrester-Marsh system of ties and metal shuttering (see Fig. 5). This shuttering is made up of corrugated iron, to which are welded metal plates. Patent distance pieces hold the shuttering apart, and to these are fixed clips pierced to take reinforcement rods. During erection temporary wood battens are used on the outside. The walls are constructed in successive heights of 4 ft. 6 in. Door and window frames are built in as the work proceeds. The Edwards Construction Company are the contractors for the Deptford Borough's housing scheme. The labour is almost entirely unskilled; after a few days the men are able to "carry on," while a fortnight's experience renders them proficient.

Reinforced Concrete.

Amongst the new systems are included several with reinforced concrete. For the most part, as may be supposed, reinforcement is not required in cottage work; the loads are so small. Certain systems, however, have survived the practical test, and are in extensive use. Houses are being erected at Bolton, Warrington, Dormanstown, Liverpool, Birmingham, Bristol, and in other parts of the country, by means of the Dorman Long system. This consists of a frame built of light steel s To this steel structure Hy-Rib re ment is attached by means of gal wire. The sheets are properly lap pressed together. The outer po the wall is finished to a thickness made up of 1½ in. on the inside a on the outside of the Hy-Rib. Tl portion of the outer wall is built u the steel frame of coke-breeze bloc cavity is 4½ in. Hy-rib is self-cent that no close-boarded shutte required. The roof and the first constructed in a similar manner, b of Hy-Rib between the steel trus joists.

An entirely different system of r ment is employed by the Waller Corporation, who have entered i contracts with the Poole Corpora the Liverpool Corporation. The s to build the walls and floors wi pre-cast reinforced members (see These are moved into position by specially designed cranes with wh job is equipped. A hollow wal cured, the two leaves being con intervals by columns, which are r on the site and bind the whole together. The outer leaf is of fi concrete, mixed wet, and the crushed clinker. The slabs are full height of one story in on The roof is also made in sections from ridge to eaves. We have no but by no means exhaustively, the chief concrete methods, sele or two examples from each, an where those who may be intereste spect work which is complet progress.

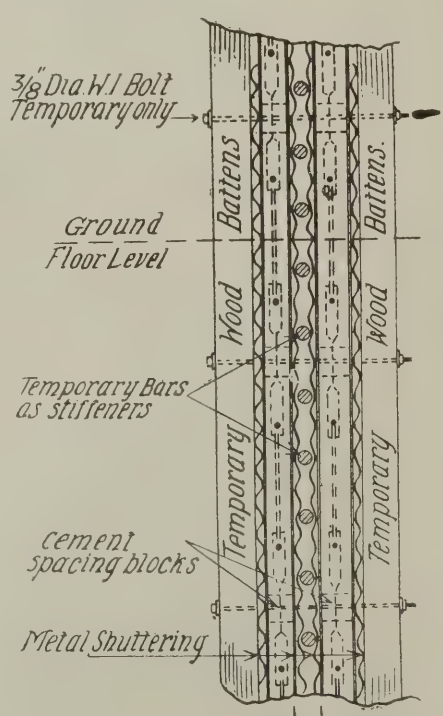
Terra-Cotta Block.

The terra-cotta hollow block w known before the war; at the pre an inter-locking block with dove-t which is made by Messrs. Wal and Sons, is proving satisfa various schemes, and forms the m houses in course of erection for mersmith Metropolitan Boro Croydon Borough Council, and c authorities. The main buildin 12 in. long by 9 in. high, with tw and 1 in. skins. The blocks are three thicknesses—for external weight-carrying partitions, and weight-carrying partitions. Var standard blocks are made—fo window and door joints, mullio

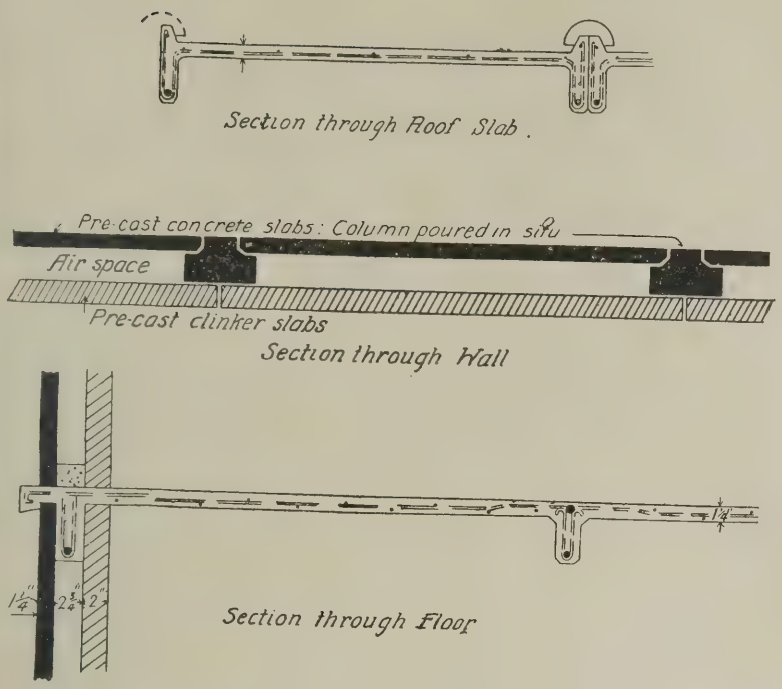
Timber Houses.

A little over a year ago an ill- outcry was made in the lay timber houses, which were to panacea for all housing ills. examples of timber houses may in many parts of the country, ti struction is not indigenous to Scarcely any of the recent atte have been made have proved ch brickwork; furthermore, unless struction be of hard wood, or building be rendered with ceme under pressure, it is not eligibl than two-thirds the subsidy; or, of local authorities' housing sc loan period is reduced from 60 t A system has been put forwa Trowbridge, by which houses constructed in the Isle of Wig the New Forest, which makes u elm. The elimination of sh claimed by means of methods and straining. The roofs are

An introduction from Americ finding some favour is the



5. HOLLOW CONCRETE WALL CONSTRUCTION (FORRESTER-MARSH SYSTEM).



6. PRE-CAST REINFORCED CONCRETE CONSTRUCTION (WALLER HOUSING CORPORATION).

e. Walls for cottages are constructed ıooting "gunite" over a layer of ex- ed metal lathing backed by Ruberoid ome similar material and fixed to a er frame. The "Gunite" consists of xture of sand and cement shot under ure from a cement gun made by the -soll-Rand Company. The mixture is ated at the nozzle and is applied to ickness of about 1 in. "Gunite" s are completed and in course of on at Prittlewell, near Southend. es built by this method are eligible e full Government subsidy. A system n as the "Bur-Pal" consists of a ardised wooden frame for the subse- application of "Gunite." It is a unit n, and each unit consists of a pair ds for each longitudinal wall between of the floor joists, roofing ties, rafters russ members. These are bolted ıer as a unit, and raised into position. are self-contained units spaced 4 ft. ntres, and between each of the inter- te studs the window and door frames et. The units are held in position use of ribbons fastened to the stud by coach screws. Horizontal bands e are placed around the exterior of ramework 18 in. apart; over the framework tarred felt paper is , and over this again expanded The cement wall is shot on the led metal by the cement gun under pressure of about 30 lb. to the square The rapidity of shooting is very about 70 sq. ft. can be shot in three es. Fig. 7 shows the framework of ır-Pal" house in course of erection on.

Pisé and Chalk.

rts have been made from time to revive certain methods of building ıich there has existed a local tradi- such as pisé-de-terre, chalk-pisé, y-lump walling. The attempt is er, somewhat a retrograde one in ese systems have, in the course of een superseded by others of greater cy; moreover, few architects or tors are willing to make them- responsible for building in a method that has become almost obsolete. In various localities individuals are to be found who are still familiar, sometimes only by hearsay, sometimes from actual experience, with these methods, and in such outlying districts, where labour is cheap, it may well be worth while to revive such local traditions. It is essential that there be proper supervision. Pisé houses may be seen at Newlands Corner, and chalk-pisé at Odiham. Clay-lump walling has also been used with success. Boulder clay, of which a considerable portion is chalk, is puddled up, and a small amount of straw mixed; it is thrown into a bottomless box and tamped; the box is removed, and the clay left to dry naturally.

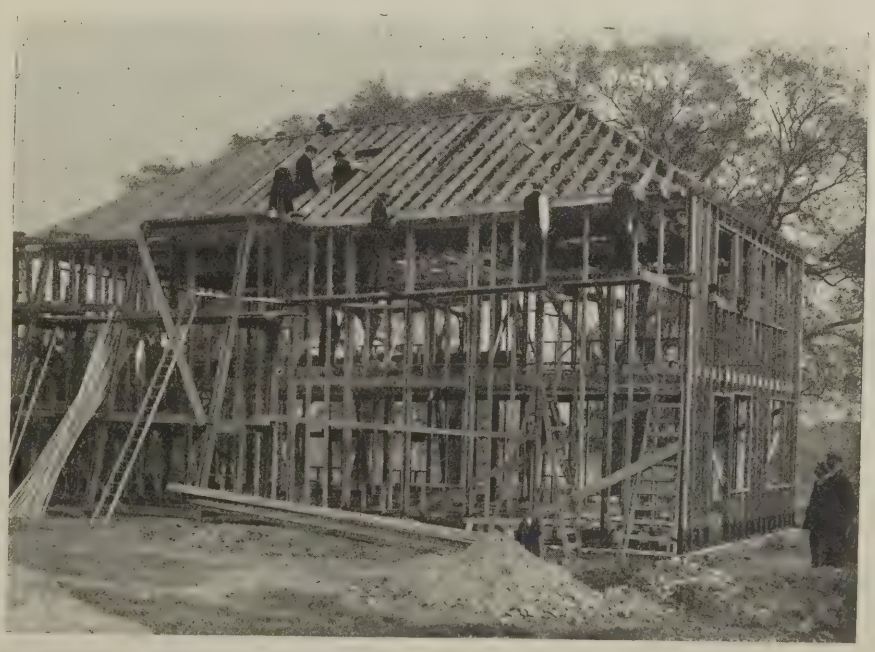
Experiments are being carried out at Amesbury with chalk concrete; the mixture is about 1 to 20; no water is added, the chalk containing sufficient moisture in its natural state. Many interesting experiments are being carried out with unfired natural materials. It is a line of research which may yield fruitful results, and the saving in fuel should eventually show itself—as a system becomes more efficient—in the cost of the building.

Despite certain unsatisfactory results and certain failures there is sufficient evidence to refute the arguments of those who insist upon opposing every innovation in building methods. It may with justification be said that a very valuable contribution towards the present situation is afforded by many of these systems, and this value will undoubtedly be increased if the employment of more unskilled labour in the building trade becomes possible. At present, in most cases, full advantage of the methods cannot be taken owing to the attitude of the Trade Unions, which is somewhat unreasonable, although it is impossible to resent a genuine effort to uphold good standards of workmanship in the building industry.

Ministry of Health's Investigations

Apropos of the foregoing article, attention may be drawn to the report recently issued by the Committee appointed by the Ministry of Health to consider (*a*) questions of standardisation of materials and fittings, and (*b*) proposals in regard to new materials and methods of construction. The Committee, whose report deals with investigations made up to the end of April, 1920, were occupied, in their earlier meetings, mainly with the consideration of suitable standards for structural fittings.

With regard to methods of construction for houses, the Committee investigated (and report upon) bricks, chalk bricks, rammed or moulded materials, cement concrete, steel-framed building, timber-framed building, and building appliances. The report, which includes appendices on a variety of subjects germane to the enquiry, may be obtained from H.M. Stationery Office, price 1s. 6d. net.



7. "BUR-PAL" STANDARDISED WOODEN FRAME CONSTRUCTION.

Some Important Buildings of the Year

Messrs. Dickins & Jones's New Premises

When completed, these fine new shop premises now in course of erection from the designs of Sir Henry Tanner, C.B., I.S.O., F.R.I.B.A.; Henry Tanner, F.R.I.B.A.; and E. J. Tanner, A.R.I.B.A., will be the most up-to-date in the country. Only one-third of the work has yet been undertaken, and this, but for L.C.C. restrictions on open floor areas, follows the lines of the great American stores.

The ground, first, and second floors are show rooms, and the third floor is taken up with work rooms, counting house, and staff canteen. The fourth floor comprises restaurant and grill room. The basement forms a warehouse, and the sub-basement accommodates the packing and dispatch department

There is a complete sprinkler installation, with injector in the sub-basement.

The building is a steel-framed structure, faced with Portland stone, certain enrichments of which, when the entire building is completed, will be picked out in the primary colours. The external carving is by Mr. Stevenson.

Argyll Street, which runs along one side of the premises, is eventually to be widened, and, bearing that in mind, the scale of the building on that side has accordingly been considered.

Messrs. Dickins and Jones do a large "mail order" business, and the dispatch department is on the American "endless counter" system. In Argyll Street there is a loading dock with two goods hoists.

The building when completed will have eight passenger lifts, two staff lifts, and four goods hoists. The equipment includes a vacuum cleaning installation and a system of cab calls.

Messrs. Higgs and Hill, Ltd., of Crown Works, Lambeth, are the general contractors, the following sub-contractors also being associated with the work: British Luxfer Prism Syndicate (casements and glazing); Sage and Co. (fittings and shop fronts); Drake and Gorham (electric lighting); General Electric Company, Ltd., and Strode and Co. (electric light fittings); Hadden and Co. (bronze entrance lamps); Bromsgrove Guild (cast-iron balconies and other metal work); John Tanner and Higgs and Hill, Ltd. (plaster work); Farmer and Brindley (internal alabaster work); Jeffery and Co. (heating and ventilating); Gibson and Co. (roller shutters); Waygood and Co. (lifts); Richard Morland and Co. and Hayne and Co. (steelwork).

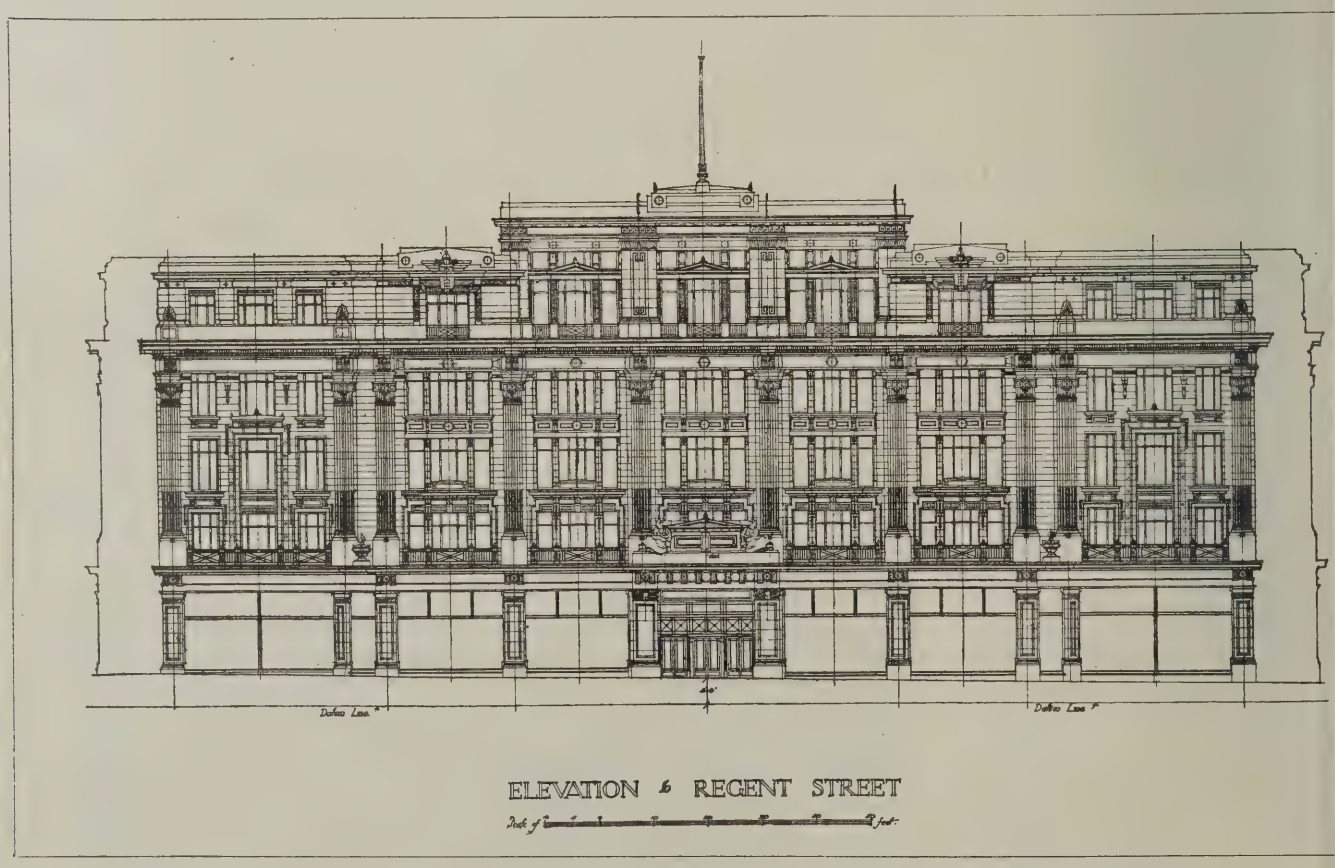
Marylebone Town Hall

Marylebone Town Hall, of which the Princess Royal laid the foundation stone a month before the outbreak of the Great War, is situated in the Marylebone-road, nearly facing the Great Central Hotel. The work of building was continued during the war, the premises being required by the Government. On completion the building was occupied by the Ministry of Pensions, who have now relinquished it, the hall having been formally dedicat Prince Albert to the purpose for wh was designed.

Mr. Edwin Cooper's design for th Town Hall can be clearly read in th completed building seen from the thoroughfare of Marylebone. A str forward oblong plan is embodied broad stone structure having two sho two long façades, in which the pre nantly horizontal lines are well cont with the graceful upward-springing panile outlined above them. Each is marked by pylons 37 ft. from th tremities, which with their fluted thian columns break forward fron chief plane of the building and form finite composition against it. On the façade, fronting the Marylebone Roa space between the pylons is filled portico supported by coupled col across the lintel of which runs the cornice, which here carries a balus blocking course surmounted by six

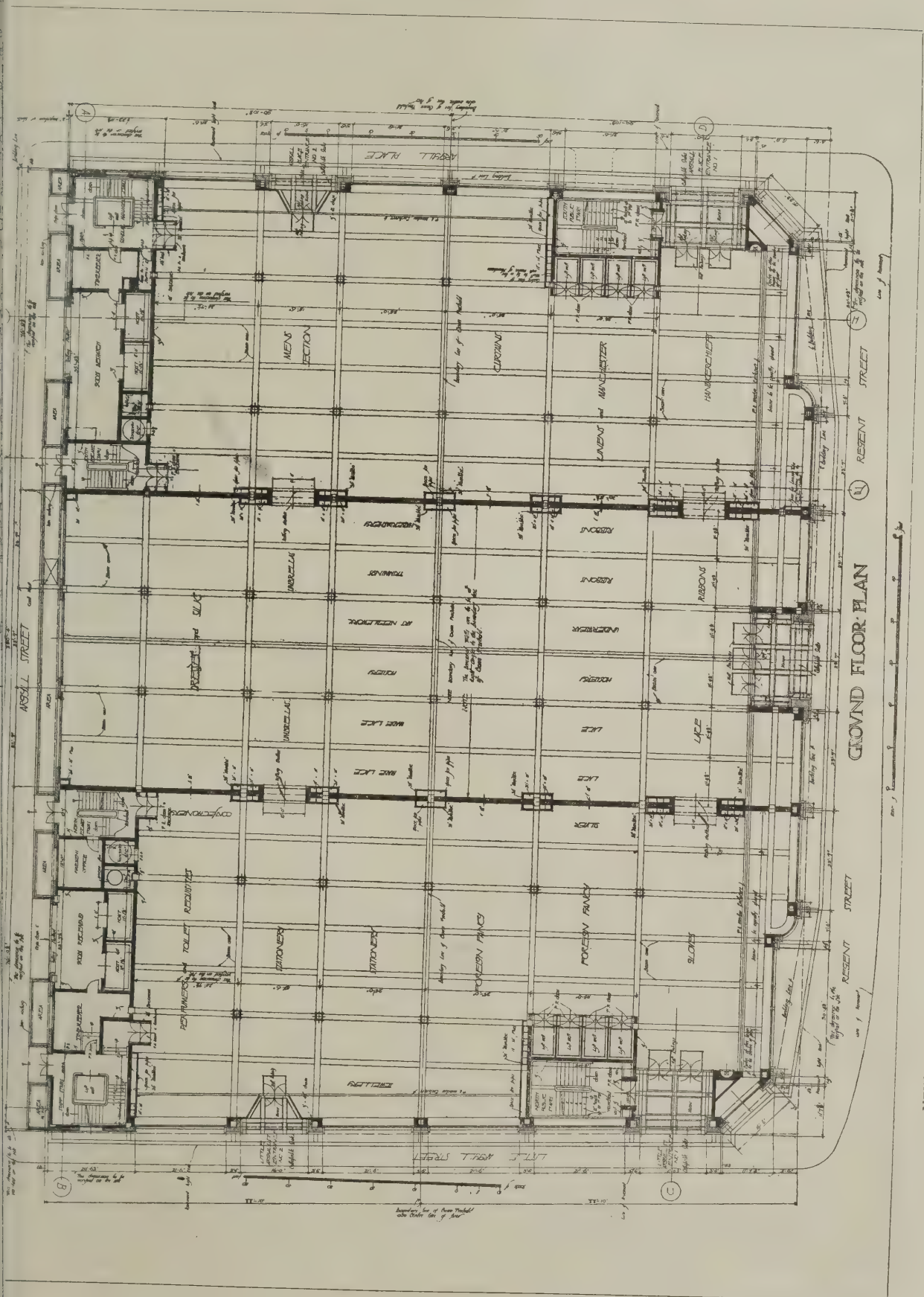
A flight of steps the width of the leads up to the main entrance. Th tico consists of three bays betwe coupled columns, and the centre ba tains an elaborate and enriched d which is designed in conjunction w window above it, the two being con by means of a grille which surmou hood of the doorway and forms same time a balcony motif for th dow. The architect has everywhere use of ironwork as a natural foil to

The whole of the interior of the lebone Town Hall is noteworthy directness and efficiency for adm

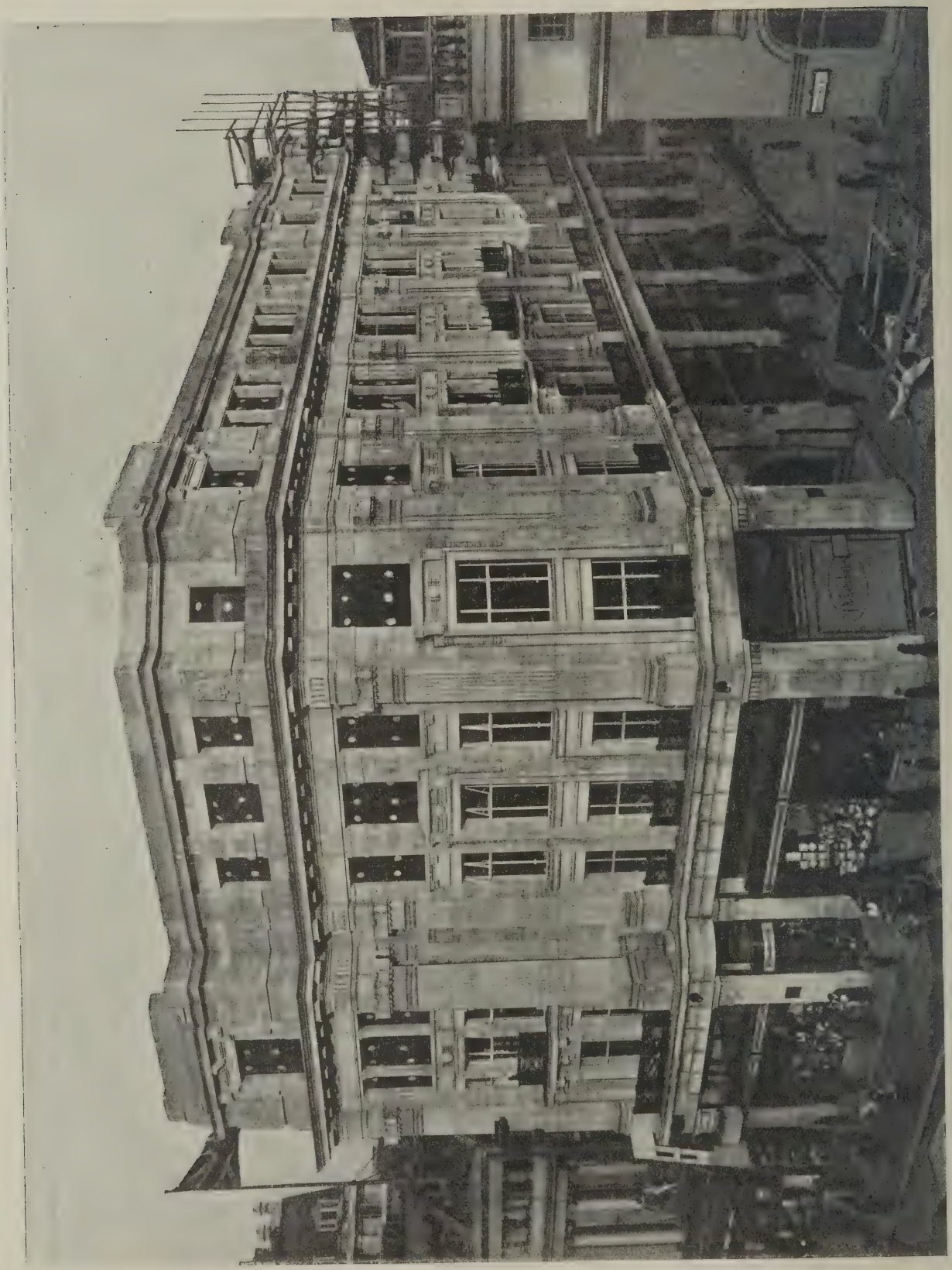


NEW PREMISES FOR MESSRS. DICKINS AND JONES, LTD., REGENT STREET, LONDON.

SIR HENRY TANNER, C.B., I.S.O., F.R.I.B.A., HENRY TANNER, F.R.I.B.A., AND E. J. TANNER, A.R.I.B.A., ARCHITECTS



NEW PREMISES FOR MESSRS. DICKINS AND JONES, LTD., REGENT STREET, LONDON: GROUND-FLOOR PLAN.
SIR HENRY TANNER, C.B., I.S.O., F.R.I.B.A., HENRY TANNER, F.R.I.B.A., AND E. J. TANNER, A.R.I.B.A., ARCHITECTS.



n. The appointments bear evidence of eful thought and consideration—circu- on for both public and staff, lifts, stairs, ridors, heating, ventilation, and light- , are problems which have all been lt with very successfully.

The council chamber is executed in wal- ; a range of Corinthian pilasters and phies is the principal feature of the atment. The trophies were executed by . Houghton, of Worcester, and are bolical very largely of the functions l scope of the borough.

The Mayor's chair in the Council mber is also in walnut, very richly de- ed, while the lines of its composition well controlled and skilfully disposed. e canopy or sounding-board is very suc- sfully treated, modestly reflecting the nity of the office; while the carvings ve it, flanking it, and in front of it, are resting in subject as well as graceful treatment, the blending of the shields l other heraldic devices with foliage, er, and fruit being more congruous n this combination is usually made.

The reception-room on the first floor rlooking the Marylebone Road is ned in immediate conjunction with committee-rooms, the chimneypieces which, at either end of the suite, come a highly satisfactory axial element. whole is executed in walnut, with rich ngs in fibrous plaster.

he ante-room between the main stair- and the council chamber is a brightly lighted approach paved with marble. The walls are finished in Roman stone, and the ceiling is of fibrous plaster. The doors and the window openings are filled with a treatment of bronze.

The Mayor's parlour is treated in the Georgian manner, with simple and spontaneous effect, which is heightened by the panelling in white wood and by the refined design of the chimneypiece. The electric showroom on the ground floor—one of the largest compartments in the building—is divided up by a simple Doric unit, with as little interference with floor space as possible. The ceiling, in fibrous plaster, shows well-disposed planes of beam and panel.

The main contractors were Messrs. J. Greenwood, Ltd., of London, and Mr. G. C. Hooper was clerk of works.

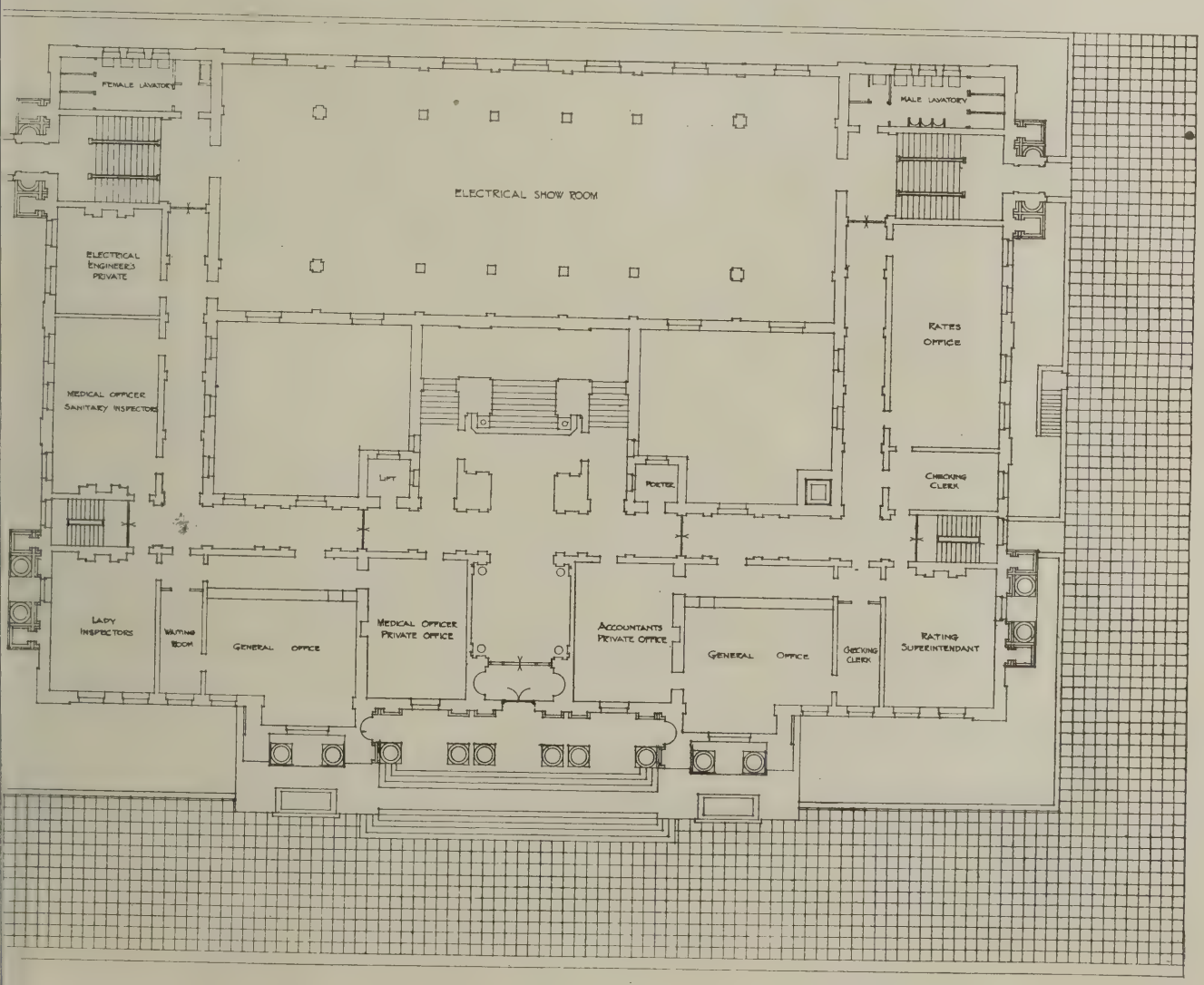
Other contracts include: Metalwork, wholly carried out by Mr. W. Smith, of Balcombe Street; stone-carving by Mr. Joseph Whitehead; wood-carving by Mr. George Houghton, of Worcester; plaster-work modelling by Messrs. F. De Jong and Co., Ltd., of London; furniture by Messrs. John P. White and Sons, of Bedford; marblework by Messrs. Whitehead and Sons, of London; enamelwork by the Paripan Company; reinforced-concrete construction by Messrs. Bradford and Co., of London; electric wiring by Messrs. Higgins and Griffiths, of London; door furniture by Messrs. James Gibbons, of Wolverhampton; tiles by Messrs. Malkin, of Burslem; sanitary ware by Messrs. Emanuel and Co., of London; lifts by Messrs. Smith and Stevens, of Northampton; heating and ventilating by Messrs. James Cormack and Sons, of Glasgow, under the supervision of Mr. Mumford Bailey; clocks by the Magneta Time Company, of London; asphalt roofs by Messrs. Lawford and Co., of London; and grates by the Well Fire Comany, of London.

Metropolitan Water Board Offices

When in 1914 the Metropolitan Water Board decided to erect new central offices on the site of the New River Head in Rosebery Avenue, they invited six architects to send in designs. The design of Mr. H. Austen Hall, F.R.I.B.A., was selected The building occupies an area of about one acre, forming an irregular five-sided figure. Two sides face Rosebery Avenue, and on three sides there are filter-beds. Accommodation for all the departments of the Board is comprised under one roof.

The new elevations are modern expression of English Renaissance architecture, the materials being red brick and stone. It was necessary to observe strict economy in the design, which therefore has been kept somewhat severe in charac-

(*Continued on page 770.*)



MARYLEBONE TOWN HALL: GROUND-FLOOR PLAN. T. EDWIN COOPER, F.R.I.B.A., ARCHITECT.

MARYLEBONE TOWN HALL: VIEW FROM SOUTH-EAST. T. EDWIN COOPER, F.R.I.B.A., ARCHITECT.

(*See page* 764.)

The Council Chamber.

The Mayor's Parlour.

MARYLEBONE TOWN HALL. T. EDWIN COOPER, F.R.I.B.A., ARCHITECT.

(*See page* 764.)

ter. A condition of the competition was that considerable space should be left for future extension, and this is provided for in the roof storey, to which additions may be made at a later date. This provision explains the incomplete appearance of the building as seen from Rosebery Avenue.

The building contains many fine apartments, principal of which are the board-room and the rental ledger hall. The board room, which is on the first floor, over the principal entrance, is for the accommodation of seventy-six members, with galleries for the public and the Press.

The rental ledger hall is centrally placed to be convenient for the surrounding departments. Spacious and well lighted, it is distinguished by a curved roof having a series of Lunette openings along its whole length above the balcony balustrade.

The oak room, a relic of the New River offices, has been very carefully preserved and incorporated in the new building. The work was entrusted to Mr. Laurence Turner, the authority on plaster ceilings.

Messrs. Rice and Son, of Stockwell, were the principal contractors, and Mr. W. Scott acted as clerk of works.

Other contracts include: The asphalt work by Messrs. Limmer Asphalte Company; bricks by S. and E. Collier; stone work by Messrs. United Stone Firms; stone carving by Messrs. Broadbent and Son; staircases, reinforced concrete construction by Messrs. Bradford and Co.; steelwork by Messrs. Young and Co.; fireproof floors by Messrs. Diespeker and Co.; tiles by Messrs. Carter and Co.; slates by Mr. R. J. Ames; casement fittings by Messrs. Leggott and Co.; patent glazing and fittings by Messrs. Wooton and Co.; stoves, grates, and mantels by Messrs. Bratt, Colbran, and Co.; sanitary ware and fittings by Messrs. Shanks and Co.; lead down-pipes and R.-W. Heads by Messrs. Wainwright and Waring; wood block flooring by Messrs. Acme Flooring Company, Ltd.; marble flooring and stair treads by Messrs. Whitehead and Son; electric wiring by Messrs. Strode and Co.; plasterwork by Messrs. A. and S. Wheater and Co.; carved doors by Mr. Laurence Turner; art metalwork by Messrs. Singer and electric light fixtures by Messrs. and Co. and Messrs. Faraday and door furniture by Messrs. Chas. and Sons; gates and railings by M H. T. Allen and Co.; folding shutters, etc., by Messrs. Bostwick pany; wall hangings by Messrs. Os Ltd.; lifts and cranes by Messrs. good-Otis, Ltd.; heating and vent by Messrs. Jeffreys, and Co., Ltd. and telephones by Messrs. Strode an strong-room doors and safes by John Tann; clocks by Magneta Company, Ltd.; cooking machine Messrs. Briffault Range Company; room fixtures by Messrs. Gibbon Son. The whole of the hardwood, j and fittings for the buildings, as all the furniture for the board room executed by Messrs. Samuel Elliot Sons (Reading), Ltd., of Cave Reading, and were manufactured in selected Cuba mahogany, many door and other panels being q veneered and french-polished. Son tion of the work was fumigated an polished, making a pleasant contra desks and main counter in the ledger hall and the leather-covered seating, doors, and overdoors, wh special features of the board room, as the hardwood screens in the co were also made by this firm, who n manufactured all the woodwork (a joinery at Reading), but also fixe the building.

THE MAYOR'S CHAIR, MARYLEBONE TOWN HALL.

(*See page* 764)

Faculty of Arts Build Manchester

This fine new building has been from the designs, and under the vision, of Messrs. Thomas Wort and Son, architects. The materia are Portland stone and small d faced Ruabon bricks. Interna columns and masonry of the sch are of Portland from the base bed school of the Faculty of Arts has its rooms, seminary or study room rooms for professors. A large cent divides the building into two halv half on each of the three floors co accommodation for one school. back of the central hall, on the b level, is a large common lecture- seat two hundred. The lavator cloak-rooms are in the basement.

At the opening of the build degree of Litt.D. was conferred u Percy Worthington, brother of t of the firm.

Messrs. Macfarlane and Sons w general contractors, and the e installation was designed un direction of Mr. Walton, electric neer, and was carried out by Lightfoot Bros. The sub-contract as follows: The Combined Concr struction Co., Manchester (ferro- construction); Messrs. Conway a Manchester, and Messrs. Pilking Co., St. Helens (tiles); Messrs. Bros., Hull (wood block flooring); Heywood Bros., Reddish (electric under the direction of Julius Frit chester); Messrs. Earp, Hob Miller, Manchester (plaster wo supply of electric light fixtures lanterns in the hall); Messrs. Ran Co., London, and Messrs. Leg Co., Bradford (door furniture Messrs. Edward Hart and Co.,

(*Continued on page* 778.)

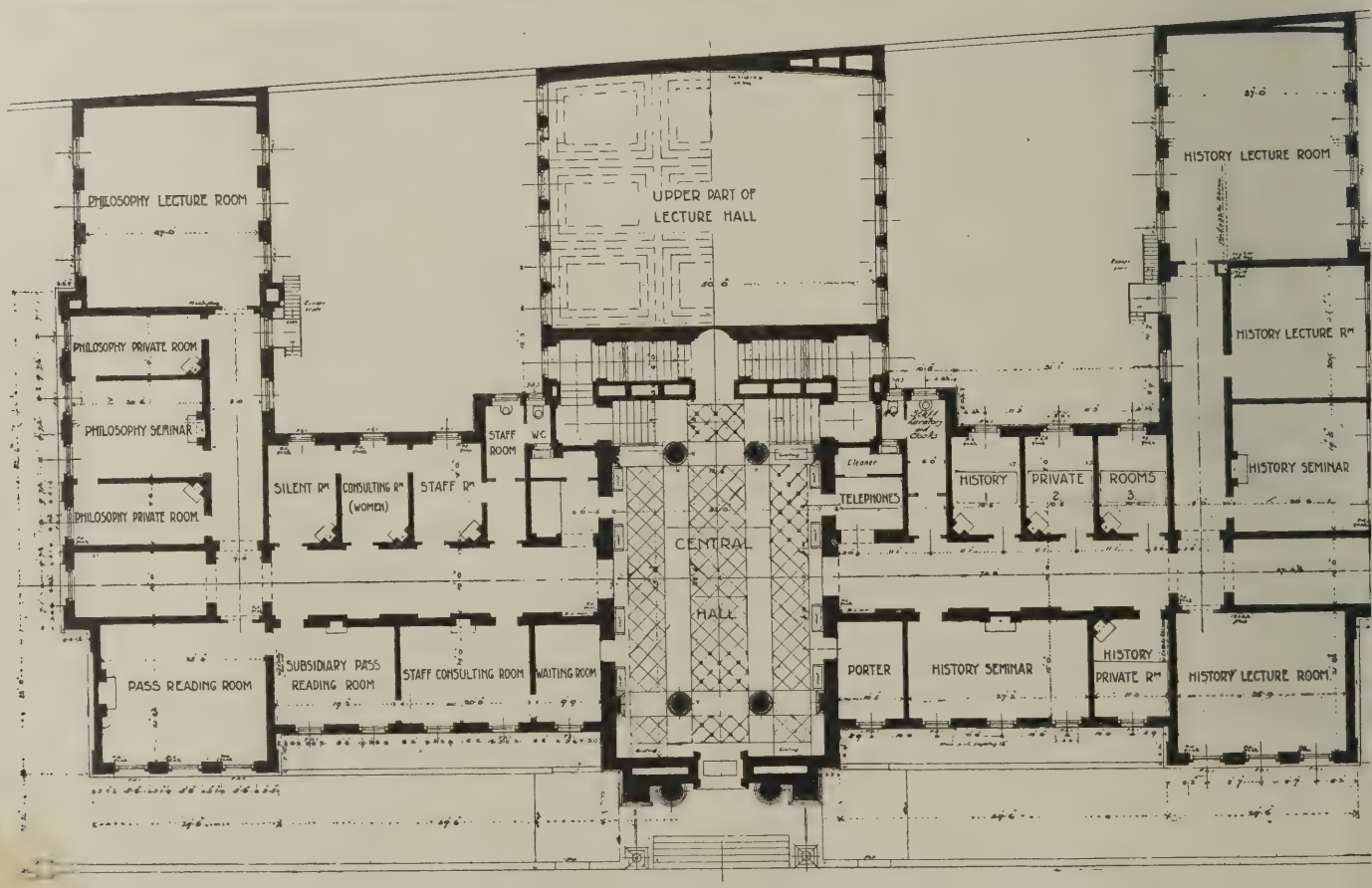
NEW CENTRAL OFFICES FOR METROPOLITAN WATER BOARD: PRINCIPAL FRONT.
H. AUSTEN HALL, F.R.I.B.A., ARCHITECT.

NEW CENTRAL OFFICES OF THE METROPOLITAN WATER BOARD: THE BOARD-ROOM.

H. AUSTEN HALL, F.R.I.B.A., ARCHITECT.

NEW CENTRAL OFFICES OF THE METROPOLITAN WATER BOARD: RENTAL LEDGER HALL.
H. AUSTEN HALL, F.R.I.B.A., ARCHITECT.

(*See pages 767 and 770.*)



FACULTY OF ARTS BUILDING, MANCHESTER UNIVERSITY. THOMAS WORTHINGTON AND SON, ARCHITECTS.

(*See page* 776.)

FACULTY OF ARTS BUILDING, MANCHESTER UNIVERSITY: DETAIL OF MAIN ENTRANCE.
THOMAS WORTHINGTON AND SON, ARCHITECTS.

(*See page* 770.)

Photo: Stewart Bale, Liverpool.

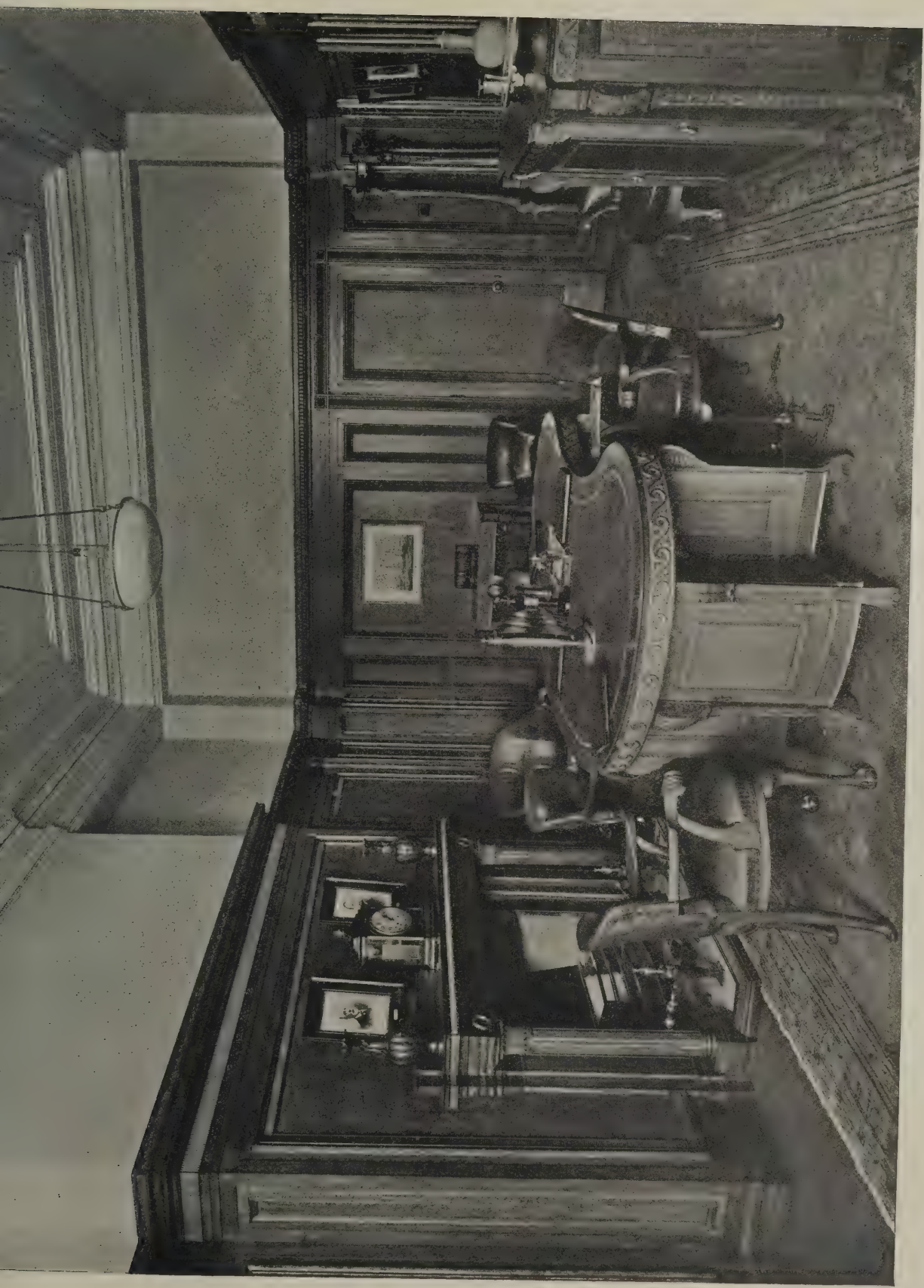


Photo: Stewart Bale, Liverpool.

PACIFIC STEAM NAVIGATION CO.'S OFFICES, LIVERPOOL: CHAIRMAN'S OFFICE.
WILLINK AND THICKNESSE, FF.R.I.B.A., ARCHITECTS.
(*See page* 778.)

and Messrs. Humphries, Jackson and Ambler, Manchester (gates, railings, handrails, balusters, shutters, etc.); Messrs. G. N. Haden and Sons, Manchester (heating and ventilating and supply of boilers); Messrs. Lightfoot Bros., Manchester (bells and telephones); Messrs. John Heywood and Co., Manchester (desks).

Pacific Steam Navigation Co.'s Offices, Liverpool

The offices of the Pacific Steam Navigation Company in the Cunard Building, Liverpool, were prepared for them immediately after the completion of the building. Messrs. Willink and Thicknesse, FF.R.I.B.A., the designers of the entire building, were the architects of these offices, which are of very large dimensions, being about 120 ft. long and about 170 ft. wide. There is a large area in the centre 53 ft. wide, which goes over the public space between the counters. The whole of the ground floor is given up to ordinary office accommodation, and a portion of the first floor is occupied by board room, chairman's room, general manager's room, and the secretarial staff.

All the general storage of the company is accommodated in the basement, a lift made by Messrs. Waygood-Otis giving connection between the basement and the first floor.

As the entire work was carried out during the war, it was found impossible to have marble for the pillars, which are accordingly covered with decorative plaster, relieved by appropriate gilding on both columns and cornices.

The contractors for the building itself were Messrs. W. Cubitt and Co. The whole of the mahogany woodwork was carried out by Messrs. G. H. Morton and Son, Liverpool. The whole of the plasterwork, plain and decorative, was executed by Messrs. G. Jackson and Sons, London. The electric lighting was carried out by Messrs. Higgins and Griffiths, London, and the alabaster bowls were supplied by Messrs. Bridgeman and Sons, Lichfield. The floors are covered with "Rublino," manufactured by the Leyland and Birmingham Company.

New Memorial Chapel at Marylebone

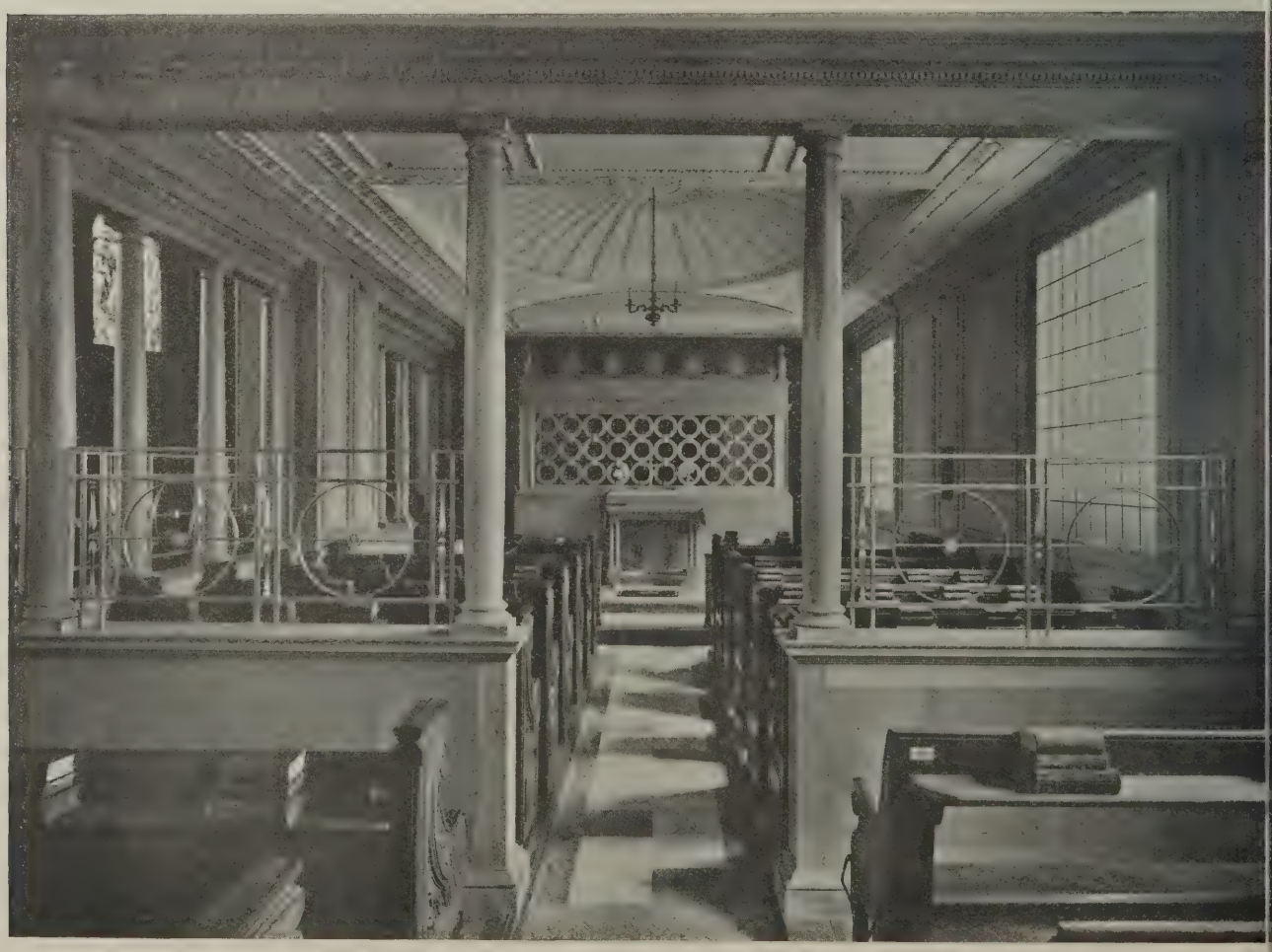
The new memorial chapel at Holy Trinity Church, Marylebone, was built for Mr. W. Southwell Jones, as a memorial to his son, Louis Southwell Guéret Jones, Second Lieutenant, 1st Battalion Monmouthshire Regiment, 46th Division, who died on June 20, 1917, at No. 7 Casualty Clearing Station, of wounds received the previous night, while in command of a covering party before Cité-du-Moulin, Lens. The chapel was designed by Mr. Mervyn Macartney, B.A., F.S.A., F.R.I.B.A., who has worked in sympathy with, but has not actually copied, the manner of Sir John Soane, the architect of the church.

Messrs. M ides Bros., of C were the general contractors, som sub-contractors being as follows:— Burton, London (carving), Messrs. A. Brown, Ltd., London (plaster Messrs. W. Bainbridge Reynolds London (wrought iron grilles), Mr Tanner, London (marble flooring Messrs. W. J. Bishop and Co., (electric fittings).

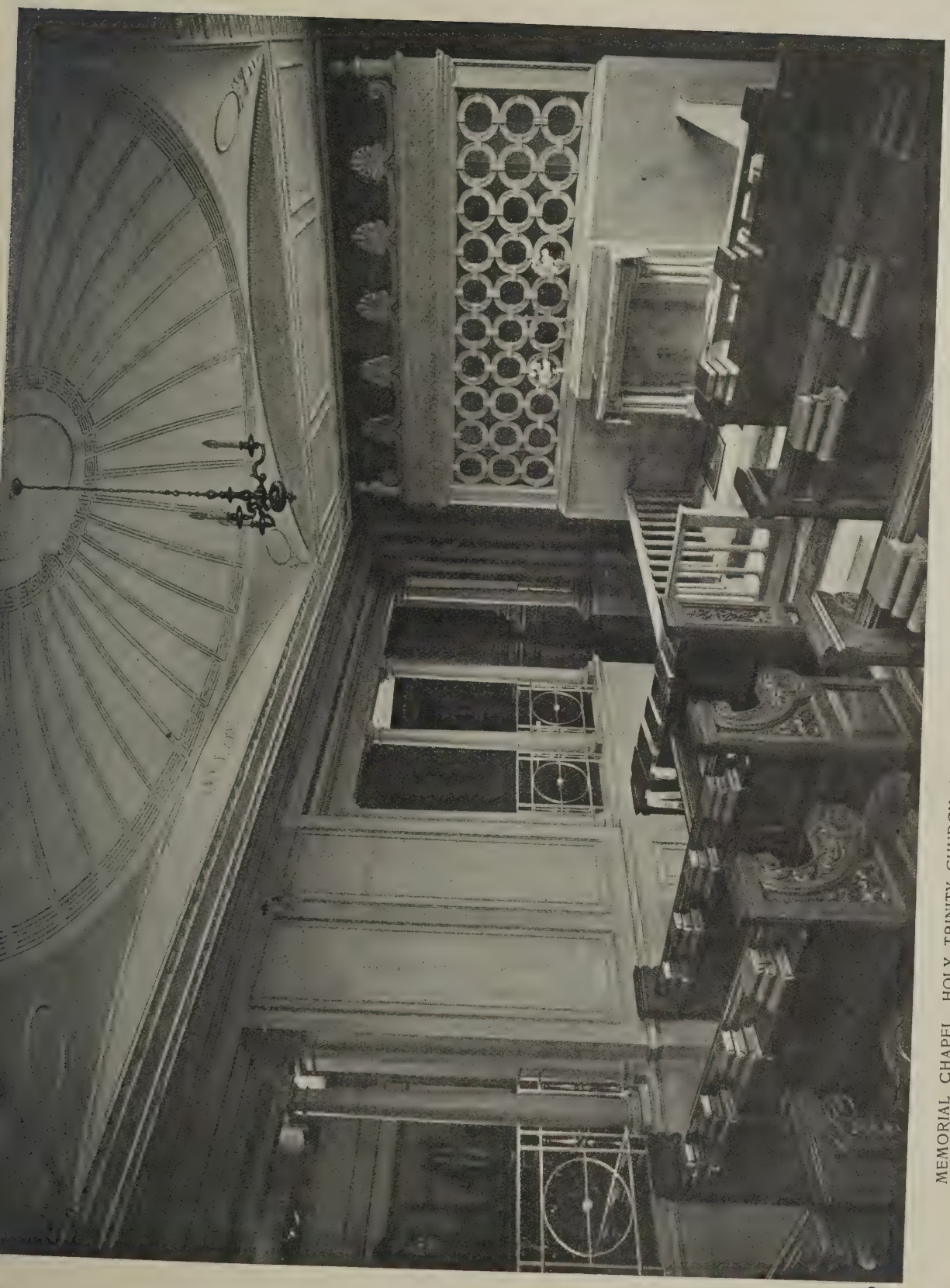
Berners House

Berners House, as designed, co a front block, with a frontage to Street, of 49 ft. 8 in., and a bac having a frontage to Well's Mews The ground floor and basement former, and the whole of the latter one occupation, and the upper fl the front block are let out as office front portion of the ground floor ar ment are appropriated to custom whom there is a central entra Berners Street, and the back comprises a goods entrance, rooms reception of goods, administration ing and cutting rooms, a staff res and accommodation for storage o rials. Messrs. Sabey and Son w general contractors, and the sub- tors were as follows: The Val de Co. (asphalte work); Lawrence (t hand-made facing bricks), The Stone Firms (stonework); Messrs. Seale and Sons (stone carving); Archibald Dawnay (steelwork); Fram, Ltd. (fireproof floors and tions); The Art Pavements, Ltd.

(*Continued on page* 782.)



MEMORIAL CHAPEL, HOLY TRINITY CHURCH, MARYLEBONE. MERVYN E. MACARTNEY, B.A., F.S.A., F.R.I.B.A., ARCHITE



MEMORIAL CHAPEL, HOLY TRINITY CHURCH, MARYLEBONE. MERVYN E. MACARTNEY, B.A., F.S.A., F.R.I.B.A., ARCHITECT

BERNERS HOUSE, BERNERS STREET, LONDON. JOHN SLATER AND KEITH, ARCHITECTS.

(See page 778)

Complete List of London District Surveyors

Architects are often inconvenienced by not knowing the whereabouts of the District Surveyor to whom their plans must be sent for approval. This list, carefully arranged for ready reference, provides all the information required for the London District.

District.	Surveyor.	Office.	Office Hours.	Personal Attendance.	Description of District.
Battersea	Black, P. J.	233, Lavender Hill, S.W.11.	9.30—5 Saturday, 9.30—1	9.30—10.30	Consisting of the borough of Battersea.
Bermondsey	Daubney, C. A.	Bank Chambers, Tower Bridge, S.E.1. Tel., Hop. 558	do.	do.	do. do. Bermondsey.
Bethnal Green	Mayhew, R. H. J.	360, Mare Street, E.8. Tel., Dalston 1601	do.	do.	do. do. Bethnal Green.
Camberwell	Marsland, E.	32, Camberwell Grove, S.E.5. Tel., Brixton 2231	do.	do.	do. do. Camberwell.
Chelsea	Hamilton, F. W.	46, Sydney Street, Chelsea, S.W.3.	do.	do.	do. do. Chelsea.
City of London, East	Todd, J.	36, Lime Street, E.C.3.	do.	do.	Consisting of that part of the City of London eastward of a line along Moor Lane, Fore Street, Aldermanbury Postern, Aldermanbury, Milk Street, Cheapside, Queen Street, and Queen Street Place.
City of London, West	Todd, J. (interim)	do.	do.	do.	Consisting of that part of the City of London westward of a line along Moor Lane, Fore Street, Aldermanbury Postern, Aldermanbury, Milk Street, Cheapside, Queen Street, and Queen Street Place.
Clapham	Grellier, W.	188, High Street, Clapham, S.W.4. Tel., Holborn 5523	10—4 Saturday, 10—1	By appointment	Consisting of the parish of Clapham in the borough of Wandsworth.
Deptford	Greig, B.	Bank Chambers, 329, New Cross Rd., S.E.14. Tel., New Cross 890	9.30—5 Saturday, 9.30—1	9.30—10.30	Consisting of the borough of Deptford.
Finsbury	Crow, A.	29, Myddelton Sq., E.C.1. Tel., Holborn 1948	do.	do.	do. do. Finsbury.
Fulham	Legge, H. A.	Broadway House, The Broadway, Walham Green, S.W.6. Tel., Kensington 3553	do.	do.	do. do. Fulham.
Greenwich	Fillary, A. A.	Borough Hall, Royal Hill, Greenwich, S.E.10. Tel., Greenwich 314	do.	do.	do. do. Greenwich.
Hackney	Gill-Knight, J. A.	407, Kingsland Rd., E.8. Tel., Dalston 629	do.	do.	do. do. Hackney.
Hammersmith	Glasson, A. H. W.	18, Queen Street, The Broadway, Hammersmith, W.6. Tel., Hammersmith 922	do.	do.	do. do. Hammersmith.
Hampstead	Mundell, J. E.	305, Finchley Road, Hampstead, N.W.3.	do.	do.	do. do. Hampstead.
Holborn	Perkins, W. G.	13, South Square, Gray's Inn, W.C.1.	do.	do.	do. do. Holborn.
Islington	Lees, E. W.	407, Holloway Rd., N.7. Tel., North 162	do.	do.	do. do. Islington.
Kensington, North	Tolley, G. (interim)	96, Westbourne Grove, W.2.	do.	do.	Consisting of that part of the Royal Borough of Kensington northward of Holland Park Avenue and High Street, Notting Hill.
Kensington, South	Hansom, R.D.	268, Earl's Court Road, S.W.5. Tel., Western 6267	do.	do. Except Sats., 5—7	Consisting of that part of the Royal Borough of Kensington southward of Holland Park Avenue and High Street, Notting Hill.
Lambeth, North	Coggin, C. T.	69, Kennington Oval, S.E.11.	do.	9.30—10.30	Consisting of that part of the borough of Lambeth northward of Clapham Road, Stockwell Road, Gresham Road, and Coldharbour Lane.
Lambeth, South	Stokes, A. P.	365, Norwood Rd., S.E.27.	do.	do.	Consisting of that part of the borough of Lambeth southward of Clapham Road, Stockwell Road, Gresham Road, and Coldharbour Lane.
Lewisham, North	Davidge, W. R.	63, Lewisham Pk., S.E.13.	do.	do.	Consisting of that part of the borough of Lewisham bounded on the west by the borough boundary, Honor Oak Park and Brockley Rise, and on the south by Stanstead Road, Catford Hill, Catford Road, Rushey Green, Brownhill Road, St. Mildred's Road, Burnt Ash Hill, and Winn Road.
Lewisham, East	Young, E. A.	1, Station Buildings, Catford Bridge, S.E.6.	do.	do.	Consisting of that part of the borough of Lewisham eastward of the Nunhead and Shortlands Railway and Stumps Hill; and southward of Catford Hill and Catford Road, Rushey Green, Brownhill Road, St. Mildred's Road, Burnt Ash Hill, and Winn Road.
Lewisham, West	Verstage, A. H.	Bank Chambers, Dartmouth Road, Forest Hill, S.E.23. Tel., Sydenham 550	do.	do.	Consisting of that part of the borough of Lewisham southward of Honor Oak Park, Brockley Rise, Stanstead Road, and Catford Hill, and westward of the Nunhead and Shortlands Railway and Stumps Hill.
Paddington	Tolley, G.	96, Westbourne Grove, W.2.	do.	do.	Consisting of the borough of Paddington.
Plumstead and Eltham	Batterbury, T.	9, Thomas St., Woolwich, S.E.18, & 51, Westmount Road, Eltham, S.E.9.	10—4 Saturday, 9.30—1	do.	Consisting of Plumstead and Eltham, in the borough of Woolwich.
Poplar	Knight, E. W.	94, Bow Road, E.3. Tel., East 122	9.30—5 Saturday, 9.30—1	do.	Consisting of the borough of Poplar.

No.	District.	Surveyor.	Office.	Office Hours.	Personal Attendance.	Description of District.
28	St. Marylebone	Ford, L. R.	32, Orchard Street, W.1. Tel., Gerrard 4553	Saturday, 9.30—1 9.30—5.	9.30—10.30	Consisting of the borough of St. Marylebone.
29	St. Pancras	Monier-Williams, S. F.	43, Grafton Street, Fitzroy Square, W.1. Tel., Museum 1867	do.	do.	do. do. St. Pancras.
30	Shoreditch	Smith, R. E.	124, Shoreditch High Street, E.1.	do.	10—11	do. do. Shoreditch.
31	Southwark	Dicksee, B. J.	14 & 16, New Kent Road, S.E.1.	do.	9.30—10.30	do. do. Southwark.
32	Stepney, East	Kerr, H. N.	1, West Arbour St., Commercial Rd. East, E.1. Tel., East 1109	do.	do.	Consisting of the following wards in the boro Stepney: Mile End Old Town (North, Nort West Centre, South, and South-East), Lim (North and South), and Ratcliffe.
33	Stepney, West	Bromley, H. T.	Bank Chambers, 130, Whitechapel High St., E.1. Tel., Avenue 7480	do.	do.	Consisting of the following wards in the boro Stepney: Whitechapel (East, Middle, and Mile End New Town, Spitalfields (East and St. George-in-the-East (North and South), the and Shadwell.
34	Stoke Newington	Mayhew, R. H. J. (interim)	171, Church St., Stoke Newington, N.16.	do.	By appointment	Consisting of the borough of Stoke Newington.
35	Wandsworth, East	Morrice, A. G.	1, Drewstead Road, Streatham, S.W.16. Tel., Streatham 1186	do.	9.30—10.30	Consisting of that part of the borough of Wand eastward of the London and South-Western (main line) and southward of the parish of Cla
36	Wandsworth, West	Elton, P. I.	Bank Chambers, 85, High Street, Wandsworth.	do.	do.	Consisting of that part of the borough of Wand westward of the London and South-Western (main line).
37	Westminster, East	Hills, O. C.	60, Haymarket, S.W.1. Tel., Gerrard 4553	do.	do.	Consisting of that part of the City of West bounded by a line along the centres of Regent and Waterloo Place to the boundary of the p St. Martin-in-the-Fields, and thence westward existing boundary of the parish of St. Martin Fields to its junction with Constitution H thence by a line along the centres of Cons Hill, the roadway skirting the front of Buck Palace, Birdcage Walk, Great George Street, Street, and Westminster Bridge.
38	Westminster, West	Hardcastle, W. J.	9, Conduit Street, Regent Street, W.1. Tel., Mayfair 434	do.	do.	Consisting of that part of the City of West bounded on the east by a line along the ce Regent Street and Waterloo Place to the bour the parish of St. Martin-in-the-Fields, and westward by the existing boundary of the p St. Martin-in-the-Fields to its junction with C tion Hill, and thence by a line along the ce Constitution Hill, the roadway skirting the Buckingham Palace, Buckingham Gate, Buck Palace Road, and Pimlico Road, to the bour the City of Westminster.
39	Westminster, South	Surrey, C. W.	22, Buckingham Gate, S.W.1. Tel., Victoria 5386	do.	do.	Consisting of that part of the City of West southward of a line along the centres of Road, Buckingham Palace Road, Buckingha Birdcage Walk, Great George Street, Bridge and Westminster Bridge.
40	Woolwich	Young, E. A. (interim)	21, William Street, S.E.18.	do.	By appointment	Consisting of that part of the borough of W westward of Plumstead, together with the portions of Woolwich North of the River Th.

(*Continued from page* 778.)

The Carron Co. (stoves, grates, and mantels); Messrs. A. Emanuel and Sons (plumbing, sanitary work, sanitary ware and fittings); Messrs. Barlow Bros. (electric wiring, electric bells, and telephones); Messrs. Gilbert Seale and Sons (plasterwork); Messrs. Sabey and Son (special woodwork panelling); The General Electric Co. (electric light fixtures); Messrs. Yannedis and Co. (door furniture, etc.); The Coalbrookdale and The Carron Co. (gates, railings, hand-rails, balusters, etc.); Messrs. John Daymond and Son (mosaic decoration and marble work); Messrs. Waygood-Otis (lifts and cranes); Messrs. G. N. Haden and Son (heating and ventilating); Messrs. Sage and Co. and Messrs. Pollard and Co. (shop fittings, show cases, etc.).

Building Grants to Private Persons

The Ministry of Health have issued a Memorandum (D.194) which is a consolidation and amplification of those previously issued, setting out the conditions prescribed by the Ministry of Health in respect of grants under Section 1 of the Housing (Additional Powers) Act, 1919. The specification in Schedule 1 has been considerably enlarged so as to include various forms of approved constructions. This information will enable local authorities to deal with many of the questions on which, in the past, they have felt it necessary to consult the Housing Commissioner or the Ministry. This should also tend to expedite the issue of Certificate "A." It should be borne in mind that the local by-laws will not apply to these houses in so far as such by-laws are inconsistent with the condition laid down in the Memorandum describing the terms on which grants will be made. The fee for examination of the plans and of the house during construction and after completion has been increased to meet the case where more than three houses are to be erected to the same plan. The Memorandum may be purchased through any bookseller or directly from H.M. Stationery Office, price 2d. net.

[Whether or not the above memorandum will be to any extent modified as a result of the defeat of the Ministry of Health Bill in the House of Lords remains to be seen. Dr. Addison, it may be noted, was quick to make the reassuring statement that, while it is not possible to do anything this session, those who have acted on the distinct pledge of financial assistance will not be allowed to suffer loss.]

Queensland Timber Housing Problem

At the annual general meeti Queensland of the Brisbane Timbe chants' Association it was stated t some extent the scheme for b homes for returned soldiers had b sponsible for the activity in the trade during the past year. Re was made to assistance which th ciation had rendered to the War Homes Branch at Brisbane at the tion of the housing scheme, in orders through the Association's with great economy in time as with price concessions. The i diversion to the south of much timber acquired would, it was accentuate the shortage of b timbers in Queensland, and this wo for the adoption of a revised classi as there would appear to be no m supplementing supplies by the imp of Baltic or Oregon timbers. The classification would prevent a gre of economic waste without diminish structural strength of the timbers buildings. Necessity, ever the stim action, has thus determined a be economy that might not otherwis been effected.

BEAUDEXOL
UPER WATER PAINT

THE IDEAL FINISH
FOR WALL AND
CEILING SURFACES

ERMANENT — DURABLE
ASHABLE — SANITARY
BSOLUTELY — NON-ABSORBENT

AUDEXOL may be VARNISHED
hout further treatment, giving results equal
enamel at half the cost.

Manufactured by

ROWN & CRITCHLEY, LTD.,
LENZIE, SCOTLAND.

egrams: WALP, LENZIE. Telephone: 51, Kirkintilloch.

Sylvadure
OOD PRESERVER

As specified by the
GLASGOW CORPORATION
For their Housing Scheme, 1920-21.

New Buildings—
"SYLVADURE" renders the new wood permanently proof against DRY ROT.

Old Buildings—
"SYLVADURE" exterminates existent DRY ROT and prevents its recurrence.

"SYLVADURE" is used by the Admiralty and the War Office and is easily the best time-resisting coating. It should be specified and scheduled by all Architects, Builders, etc.

Wm. MACLEAN SONS & Co.,
BROAD STREET HOUSE,
LONDON, E.C.4.

For Drawings and Plans:—

WHATMAN
Genuine Hand Made
DRAWING PAPERS
UNRIVALLED FOR 150 YEARS.

Official price list can be obtained on request from any Artists Colourman, Drawing Office Stationer or Paper Merchant in the United Kingdom.

Double Elephant	40" x 26¾"	133 lbs	480's	1/8d. per sheet nett
Imperial	30½" x 22½"	72 lbs.	480's	11d. " " "
Royal	24" x 19"	44 lbs.	480's	6½d. " " "

THESE ARE ONLY A FEW OF THE MOST POPULAR OF THE 75 VARIETIES OF SIZE, SUBSTANCE & SURFACE.

LOOK FOR THE WATERMARK IN EVERY SHEET, THUS:

J WHATMAN

In case of any difficulty in obtaining supplies or particulars: write the Sole Mill Representatives:—

H. REEVE ANGEL & Co 9, BRIDEWELL PLACE, E.C.4.
TELEPHONE: CITY 7414 (3 LINES) TELEGRAMS: PAPERMEN, LONDON.

IF IT IS

IRON or STEEL

Preserve indefinitely with

CUIRASS PAINT

PRODUCTS, Ltd.,
69, VICTORIA ST.,
S.W.1.

Cuirass Liquid Proofing Waterproofs
Concrete, Zinc, Damp Walls

Electrical Notes

Common Faults in Illumination

To some extent the errors which are commonly committed in the lighting of public buildings, factories, and other structures have been implied in the earlier articles in this series which dealt with the various modern systems of efficient electric lighting. That is to say, if the principles there laid down are followed, both the common and the uncommon errors will be avoided. Nevertheless, the business of artificial lighting is so complicated that some reinforcement of these principles of good lighting from the negative side may be of practical value.

Perhaps the first point which will appeal to the architect is the effect of artificial lighting in masking the architectural features of a building. Most structures are designed and decorated with daylight in view, and the electric lighting arrangements are assumed to adapt themselves as well as may be to the conditions thus imposed. Great stress is laid upon the selection of fittings which harmonise in their appearance by daylight with the general scheme. For example, in a council chamber, a hall, or a restaurant, one will frequently see costly and elaborate electroliers and brackets which look admirable by day. At night, however, the decorative effect of these expensive accessories is completely lost behind the brilliance of the lamps. As sources of illumination they are, as a rule, thoroughly inefficient.

The shades with which the lamps are fitted have generally been selected for their appropriateness to the design, not for their usefulness as reflectors and diffusers of the light. Generally they leave the lamps exposed, giving the kind of effect which might be described as a crystallised firework.

Now there is no reason why an electrolier or any other fitting should not be both artistic and efficient from an illuminating engineering point of view. It is now a generally admitted principle that beauty and fitness are essentially allied. A great deal can be done to improve existing electric light fittings by replacing the old shades with sufficient reflectors which hide the intensely brilliant filaments and increase the effective illumination while giving a softer and more pleasing appearance to the fitting itself. The half-watt lamp is, however, so important a departure in incandescent electric lighting that it should never be used with the globes or reflectors intended for ordinary vacuum-type lamps. From the standpoint both of economy and æsthetics, it is bad practice to use the half-watt lamp except with the reflectors, and in the manner to which it is adapted.

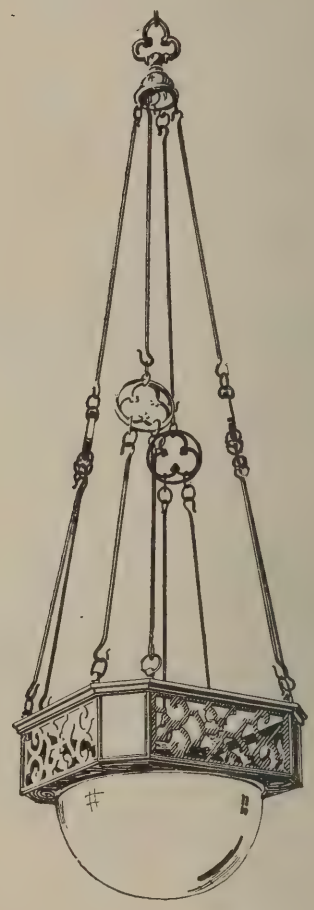
In numberless cases, however, one sees the half-watt lamp put in place of the ordinary vacuum-type lamp, with the result that the bulb sticks out several inches beyond the diffusing shade or reflector. Æsthetically this is grotesque, and scientifically it is vicious, because it exposes an intensely brilliant source of light. Architects, of course, have seldom any control over what is done to a lighting system after it is installed, but they would be well justified in registering a protest against the double fault of putting new lamps in old sockets. When a new building is in question they can, however, make sure that fittings appropriate to half-watt lamps are used. All but the smallest sizes of half-watt lamps must be hung upright, and in all cases the free circulation of air round the lamp must be provided for. These conditions are fulfilled in the wide variety of half-watt lanterns and other fittings produced for every purpose from factory lighting to the illumination of drawing-rooms.

There is another reason for considering a radical departure from the traditional style of lighting large buildings with large electroliers. These are generally hung at some distance from the ceiling, so as to be reasonably near the floor area they are intended to illuminate. In this position the lights, unless very carefully shaded and diffused, are apt to produce glare, which is particularly aggravating to people sitting in galleries and therefore nearer the level of the lamps. Even with these precautions, the effect of arranging the light sources some distance from the ceiling is that the loftiness of the building seems to be diminished and the decoration of the upper portion loses some of its value.

(To be continued.)

FITTINGS OF QUALITY

SIMPLEX ELECTRIC LIGHT FITTINGS



ENQUIRIES INVITED.

SIMPLEX CONDUITS LTD
GARRISON LANE · BIRMINGHAM
113-17 CHARING CROSS ROAD — LONDON
MANCHESTER · GLASGOW · BRISTOL
NEWCASTLE · LIVERPOOL · LEEDS
··· SWANSEA · AND · CARDIFF ···

The Week's News

(Concluded from page 175)

New Factory for Kent.
ent factory being built is designed ediæval castle to be in keeping with ient ruins in the district.

New School for Grantham.
Kesteven County Council propose t a central school for boys in am at an estimated cost of £5,000.

Cottages for Driffield.
ield R.D.C. have accepted a tender e cottages to be erected in the vil- Nafferton at a cost of £2,787.

arnoustie Housing Scheme.
Town Council have resolved to £45,000 for the local housing

ew Hotel for Aberystwyth.
s of a new hotel to be erected on e of the burnt-out hydro have been ed.

Radlett Sewerage.
Watford R.D.C. are now consider- scheme for new sewage disposal the detailed scheme and estimates h have been submitted by Messrs. Radford and Son, of Nottingham.

Keighley Housing.
ers amounting to £11,894 18s. 8d. lve houses (including land) for the ided houses at Steeton have been d, subject to the approval of the y of Health.

Rutherglen Housing Scheme.
Board of Health has intimated ap- of the purchase by the Rutherglen Council of the Gallowflat site, upon it is proposed to erect fifty-two

Malvern Housing.
building of a hundred houses is now gress, and the sum of £89,000 is d to meet the cost. About £8,800 n taken up in local housing bonds and the Council are pushing their gn.

Dumbarton School Additions.
have been passed at Dumbarton erection of buildings at Notre R.C. School, Clerkhill, Dumbarton. ildings will be two-storey high, with o be built with stone dressings at a e cost of £30,000.

A Correction.
reference to a paragraph in our August 4 concerning Chatham Competition, the address of Mr. arding Thompson, A.R.I.B.A., have been given as 38, Museum London, W.C.1.

Housing at Boston.
Boston Town Council have decided for sanction to a loan of £63,000 hase land and erect houses in le Road and Fydell Crescent. A is afoot to erect new lavatories on nd and first floors of the Assembly at an estimated cost of £300.

Housing at Manchester.
ousing contract of the Manchester ion for the Blackley estate is for es, at an average cost, including a little over £1,000. Eighty-six re now in progress, and twenty- be occupied this week. Four types s are being built. The corpora- quire 1,000 bricklayers working usly to build the houses required ext four years. It is asserted that about 50,000 houses are needed to meet the city's requirements.

Sewage Disposal at Bolton-upon-Dearne.
The great increase in population of Bolton-upon-Dearne has rendered it desirable to consider extending the sewage disposal works. The U.D.C. have instructed Messrs. W. H. Radford and Son, of Nottingham, to report on the matter.

Conversion of Houses at Buxton.
In order to assist in the alleviation of the housing shortage, an experiment is being made in the town by private enterprise in the conversion of house property into flats. The Corporation housing scheme, which has not yet materialised, will be considerably assisted by these efforts.

Garage Building at Southport.
Much headway has been made in the erection of private motor garages. During the past six months no fewer than fifty-six plans for the construction of brick motor garages have been passed by the corporation, most of which are reported to have been completed.

Rotherham Sanatorium, Etc.
New buildings are to be erected at the Oakwood Sanatorium at a cost of £45,959; 377 men are at work on the Doncaster Road housing scheme, against 569 required. The most acute shortage is in regard to bricklayers and joiners. Approximately 200 houses can be placed on Section E of the Doncaster Road site, and the architect is to prepare specifications.

Dearth of Bricklayers at Liverpool.
Liverpool needs 14,000 houses as a first instalment, and contracts have been signed for eight building schemes comprising 6,211 houses, and land to an acreage of 1,221 has been secured. There are at present only 140 bricklayers on the work, and the Housing Director of the city states that he could start 500 bricklayers immediately were they available.

Society of Architects' War Memorial.
A tablet containing the names of members of the Society of Architects who fell in the late war is about to be erected at the headquarters in Bedford Square. It is desire that the roll should be complete, and members who have personal knowledge of the death of any of their fellow-members while on active service will greatly oblige by sending particulars to the Secretary.

Margate Town-planning Scheme.
The Corporation are planning an important scheme which will lead to land developments on the Westgate side of the town. Progress is being made with the housing scheme, and an architect at £500 per annum has been appointed. The Kent County Council are being asked to advance £20,000 to meet current expenditure connected with the housing project.

Electric Light Wire for Australia.
As a result of representations made to the Customs Department it is now necessary that all rubber-covered electric light wire shall be branded on the tape with the maker's name and the grade claimed for the wire. No wire which is not so branded will be permitted into the Commonwealth; and, further, the guaranteed insulation resistance of wire bearing the new branding on the tape must in all respects comply with the guaranteed insulation resistance as set out by the Institute of Electrical Engineers, which has been adopted as the recognised standard for Australia.

Whitehaven Castle.
At the meeting of the Whitehaven and West Cumberland Infirmary it was announced that a handsome offer had been made by anonymous donors with respect to the acquisition of Whitehaven Castle for an infirmary. The castle and grounds had already been purchased, and the donors were also prepared to provide money which would pay a substantial part of the cost of the necessary alterations and the provision of equipment.

Knaresborough Housing.
The Housing Commissioner has approved house plans for the Starbeck scheme of four class A and four class B houses and the lay-out. Six class A, four class B, and two class B4 houses have been approved for Killinghall. The District Valuer has approved the purchase price of the site for Scotton houses, and the Council have decided to apply for a loan. He also approves the purchase prices for sites at Plompton, Knaresborough Outer, and Scriven.

British Industries Fairs.
The President of the Board of Trade has appointed the following Committee to consider the best policy to be adopted in future as regards British Industries Fairs: Sir Frank Warner, K.B.E., Chairman; Messrs. W. A. Anderson and P. W. L. Ashley, C.B.; Sir W. H. Clark, K.C.S.I., C.M.G; Messrs J. W. Murray and G. C. Vyle; and Major F. H. Wedgwood. The Committee will deal particularly with the centres at which they should be held, the trades which should be included, and the classes of exhibitors who should be allowed to participate. Mr. A. G. Chuter, M.B.E., of the Department of Overseas Trade, has been appointed Secretary to the Committee.

London University.
Mr. Chamberlain has stated in the House of Commons that the purpose of the offer of the Bloomsbury site to the University of London was that the university might be enabled to rise to the high level of its opportunities as the metropolitan university of the Empire. This purpose would not be secured by the selection of a site at Highgate, and His Majesty's Government would not feel justified in incurring extraordinary expenditure on behalf of the university, which would not achieve the objects desired.

Builder Fined for Profiteering.
At Bow Street Police Court on August 5, before Mr. Chester Jones, Mr. W. G. Bridgeman, builder, of Gray's Inn Road, was summoned at the instance of the Holborn Profiteering Committee in respect of a charge sought to be made for supplying and fixing a wardrobe cupboard in a house in Great James Street, Bedford Row, for Mr. Gerald Cock, an engineer. The price charged for the work was £28, and it was contended that £20 would have given a reasonable profit. Mr. Cassels, for the defence, contended that the Profiteering Act did not apply to a case of this kind, and, alternatively, that the price charged was fair and reasonable. After hearing a considerable amount of expert evidence on both sides, the magistrate held that the

case came within the Profiteering Act, but dealt with only one item in the bill—a charge of £3 17s. 6d. for two dwarf doors. He ordered the defendant to pay a penalty of £30 and £20 costs.

A Builder and State-Aided Houses.

The attitude of the Government on the housing question has been strongly criticised by Councillor J. Storrs, chairman of the Stalybridge Housing Committee and a past president of the Master Builders' Federation of the United Kingdom. Mr. Storrs said the authorities at London had not only reduced the height of the rooms of the houses intending to be built from 9 ft. to 8 ft. 6 in., but the surveyors' department had intimated that there should be no "reveals" on windows and doors. This, he said, was a very serious matter. If they were going to put window frames between two walls of brick without any reveals, it would be what was known in the trade as a "jerry" job. The houses the authorities were wanting to build, unless they were fought, would be infinitely worse than what were built by jerry builders, and not only as a builder, but as chairman of the Housing Committee, he was not going to be a party to putting up houses which in a few years' time would be a serious loss from a financial point of view, in the upkeep and repairs. Rather than build those he would prefer that Stalybridge built houses in existing streets and accepted the Government's bonus of £260 per house. They would be infinitely better off.

The Architectural Association Schools.

The old day school has been reorganised into two sections: A preparatory school of approximately two years' duration and an advanced school of one year's duration, leading onwards to five specialised courses, called "graduate courses," in construction, design, communal planning, decoration, and business. The A.A. Diploma is awarded after a two years' course in the above subjects, which diploma will be (under certain conditions) accepted by the R.I.B.A. in lieu of the final examination, with the exception of professional practice section. These graduate courses were inaugurated in 1919, and have now been running a full session with such satisfactory results that the Council have confidence in their meeting the need for higher education in specialised subjects. Mr. Robert Atkinson has been appointed director of education, a post equivalent to that of Dean in a University faculty, and a strong committee of experienced teachers has been created as the school directorate. Mr. H. M. Robertson, Dip., E. de B.A., Reg. A., New York State, has been appointed the new principal of the day school, with Dr. Faber, D.Sc., O.B.E., A.M.I.C.E., A.M.I.E.E., A.C.G.I., in charge of the constructional graduate course, Mr. L. H. Bucknell, A.R.I.B.A., in charge of the graduate design and communal planning course, and Mr. P. W. Farmer in charge of the business course. The A.A. Atelier has recently been run by Mr. Robertson, and Mr. Bradshaw, Rome Scholar, 1912, has been appointed to succeed him as sous-patron.

Builders and the Housing Subsidy.

The National Federation of House Builders has circularised its members on the Government subsidy scheme, under which a free grant of £230 to £260 may be obtained by private builders for houses erected before December 31, 1921. The circular states that representations on the part of the Federation to the Ministry of Health have resulted in many alte which are of importance in bringi scheme "within the range of pr business." "Those of our member have built under the scheme." the c continues, "have found that there market for their houses at good pri

Glasgow Housing a Health Exhibitio

Steady progress is being made Glasgow Corporation with the organ of the Housing and Health Exhi to be held in the Kelvin Hall, fron tember 15 to October 9. The new v while similar in detail to the exhibi last year, will be on a much larg varied scale. For the first time t extension in connection with the h be utilised, and this will give a tot of roughly 200,000 sq. ft. Every o nity will be given for displayi ingenuity of the architect and the in providing cheap and comm houses. In addition, there will be of building materials and machine house fittings and utensils of eve scription. There has been a keen for stalls on the part of firms deali furnishings, etc., and already pra all the space has been booked up. T poration have decided to erect a somewhat similar to the St. Mungo shown last year. These cottages designed to meet present-day ments, and will be shown furnishe plete, embodying all the latest ho appliances. There will again be c tions for artisans for designs of houses, and a number of public att have been arranged.

HOUSING.

FOR RAPID CONSTRUCTION

USE EXPANDED METAL LATHING

FOR ALL EXTERNAL AND INTERNAL PLASTERWORK.

Prompt Dispatches from Large Stocks.

NEWBURY HOUSING.

"B.B." Expanded Metal Lathing being used exclusively for Ceiling Grounds.

Borough Surveyor: S. J. L. VINCENT, A.M.Inst.C.E.

THE EXPANDED METAL COMPANY

Limited,

Patentees and Manufacturers of Expanded Metal.

Engineers for Fire-resisting Construction, Structural Steelwork, and all forms of Reinforced Concrete.

Head Office:

YORK MANSION, YORK STREET, WESTMINSTER, LONDON, S.W.1.

Works:

WEST HARTLEPOOL.

BEAUDEXOL

SUPER WATER PAINT

is the outcome of years of experience and Laboratory research work.

BEAUDEXOL has a straight metallic base and is straight oil bound.

BEAUDEXOL is sanitary owing to its surface being absolutely non-absorbent and therefore incapable of inhaling dirt and moisture, the source and being of germs.

We can with confidence submit BEAUDEXOL for inclusion in your specifications.

BROWN & CRITCHLEY, LTD.,
LENZIE, SCOTLAND.

Telegrams: WALPA, LENZIE. Telephone: 51 Kirkintilloch

For Drawings and Plans:—

WHATMAN

Genuine Hand Made

DRAWING PAPERS

UNRIVALLED FOR 150 YEARS.

Official price list can be obtained on request from any Artists Colourman, Drawing Office Stationer or Paper Merchant in the United Kingdom.

Double Elephant	40" x 26¾"	133 lbs	480's	1/8d. per sheet nett
Imperial	30½" x 22½"	72 lbs	480's	11d. " "
Royal	24" x 19"	44 lbs.	480's	6½d. " "

THESE ARE ONLY A FEW OF THE MOST POPULAR OF THE 75 VARIETIES OF SIZE, SUBSTANCE & SURFACE.

LOOK FOR THE WATERMARK IN EVERY SHEET, THUS:

J. WHATMAN

In case of any difficulty in obtaining supplies or particulars: write the Sole Mill Representatives:—

H. REEVE ANGEL & Co. 9, BRIDEWELL PLACE, E.C.4.
TELEPHONE: CITY 7414 (3 LINES) TELEGRAMS: PAPERMEN, LONDON.

Sylvadure

WOOD PRESERVER

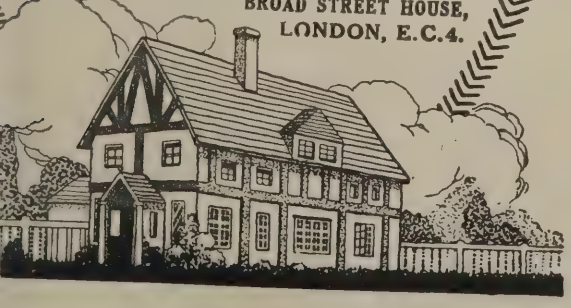
As specified by the
GLASGOW CORPORATION
For their Housing Scheme, 1920-21.

New Buildings—
"SYLVADURE" renders the new wood permanently proof against DRY ROT.

Old Buildings—
"SYLVADURE" exterminates existent DRY ROT and prevents its recurrence.

"SYLVADURE" is used by the Admiralty and the War Office and is easily the best time-resisting coating. It should be specified and scheduled by all Architects, Builders, etc.

Wm. MACLEAN SONS & Co.,
BROAD STREET HOUSE,
LONDON, E.C.4.



CUIRASS

WATERPROOFS

RUST HOLED IRON

WORN ZINC — ANY FELT

Applied cold with brush—no mixing
Costs few pence per square yard
Lasts years

Write

CUIRASS PRODUCTS, LTD.,
69, Victoria Street, London, S.W.1

Electrical Notes

Bills of Quantities.

By ALAN KIRK, A.M.I.E.E., Electrical Quantity Surveyor.

The present-day method, or lack of method, of obtaining estimates for electrical wiring contracts is a matter that calls for searching examination and drastic reform. What documentary form is best suited for this purpose? Perhaps a digression may not be out of place at this point, to allow a brief examination to be made of the prevalent methods of obtaining estimates for internal wiring. There are several ways in which this is done:

(1) Mr. "A" (an electrical contractor) receives a plan of the building from the architect, and is asked to prepare a scheme of lighting and submit a specification and estimate for the work Mr. "A" considers necessary to be executed. This is one of the worst forms of obtaining tenders, for it at once places the architect under a moral obligation to Mr. "A," and it eliminates healthy competition. Should the architect's client demand a competitive price, the architect then sends a copy of Mr. "A's" specification and schedule to Mr. "B" and Mr. "C" for their estimates, and quite possibly Mr. "B" or Mr. "C" obtain the work.

(2) Messrs. "A," "B," or "C" receive a skeleton specification, often quite inapplicable to the work in question, and a floor plan with dots or crosses marked on it to represent the approximate position of proposed lights, and are asked to submit an estimate for the complete installation of the electric light. Or

(3) At the best—Messrs. "A," "B" and "C" receive a lucid specification and schedule with floor plan showing proposed positions of fuseboards, switches, lights, etc., the specification defining the sizes of all cables, wires, and conduit, whether "buried" or "surface" work, and generally indicating how and where the conduits are to run.

Taking (3), what more do the contractors want? All they have to do is to take out the quantities, price same, and submit their tenders. Quite so, but why indirectly increase the price of the work by causing the quantities to be taken out by three or more different people?

That such methods do indirectly increase the cost cannot be denied—every job tendered for and lost under such conditions increases the establishment charges of the firms tendering; therefore, every job tendered for has to bear a proportion of such establishment charges. If the architect can by any means help towards reducing the establishment charges of the firms tendering for his work, he is incidentally obtaining a more favourable price for his client.

How can this be done? By a sound and lucid specification, with a complete set of plans and drawings showing in detail the proposed construction of the building in question, and a bill of quantities of all materials required for the contractors to price. Such bill of quantities will form a schedule of rates, and the total sum will show the amount of the tender. If tenders were obtained on these lines it should result in a considerable saving of time and money, and thereby decrease the cost of the work.

In all contracts where an architect is employed, there are three parties to the contract—the client, the architect, and the contractor. Let us analyse the argument from the three points of view.

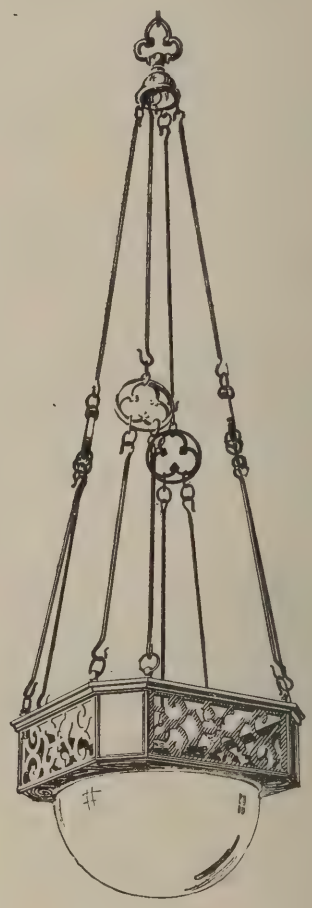
The client naturally wishes to expend the smallest amount of money compatible with a first-class job. By adopting bills of quantities, the client will obtain keener competition and therefore lower prices. He will also have a detailed account of how his money is to be spent, and a definite basis for any additions or deductions he may wish to make.

The architect, whose duty it is to hold the scales of justice between client and contractor, will be saved the time and worry of going minutely into details, he will not have to place himself under moral obligation to the contractor, and he will be saved the pitiful wrangling that so often occurs over "extras."

The contractor will be saved the very considerable time and expense of taking out his own quantities; he will be able to submit a much keener tender on a surer basis; and he will be able to release his technical engineers for the greater supervision of his works, and consequent expansion of his business.

FITTINGS OF QUALITY

SIMPLEX ELECTRIC LIGHT FITTINGS



ENQUIRIES INVITED.

SIMPLEX CONDUITS LTD

GARRISON LANE · BIRMINGHAM
113-17 CHARING CROSS ROAD — LONDON
MANCHESTER · GLASGOW · BRISTOL
NEWCASTLE · LIVERPOOL · LEEDS
··· SWANSEA · AND · CARDIFF ···

Current Prices of Materials

ONDON PRICES.—The following information is intended to serve as a guide only, and should be confirmed by Trade enquiry. The abour Rates are those current at the time of issue and are the Union Rates. The prices are for fine quality material, and are intended to cover delivery to contractors' yard or site of works. The measured prices are based upon the foregoing.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
XCAVATOR AND CONCRETOR.	
xcavator, 2s. 1d. per hour.	Excavating and throwing out in ordinary earth, not exceeding 6 ft. deep, basis price, 4s. 6d. per yd. cube.
abourer, 2s. 1d. per hour	Exceeding 6 ft., but under 12 ft., add 25 per cent.
avvy, 2s. 1d. per hour.	In stiff clay, add 50 per cent.
nberman, 2s. 2d. per hour.	In underpinning, add 120 per cent.
affolder, 2s. 2d. per hour.	In rock, including blasting, add 225 per cent.
atchman, 7s. per shift.	If basketed out, add 80 per cent. to 150 per cent.
	Headings, including timbering, add 400 per cent.
roken brick or stone, in., 12s. per yd.	Return, fill, and ram, ordinary earth, 4s. 3d. per yd.
ames ballast 22s. per yd.	Spread and level, including wheeling, 4s. 6d. per yd.
Gravel, 27s. 6d. per yd.	Planking, 8d. per ft. sup.
sand, 28s. 6d per yd.	Do. over 10 ft. deep, add for each 5 ft. depth 40 per cent.
shed sand, 30s. per yd.	Hardcore, 2-in. ring, filled and rammed 4 in. thick, 5s. per yd. sup.
reened ballast or gravel, dd 10 per cent. per yd.	Do. 6 in. thick, 6s. per yd. sup.
nker, breeze, etc., prices ccording to locality.	Puddling, 45s. per yd. cube.
tland cement, 91s. per on.	Cement concrete, 4-2-1, 71s. per yd. cube.
in small lots, ex ondon stock, 99s. per on.	Do. 6.2.1, 63s. per yd. cube.
lime, 68s. per ton.	Do. in upper floors, add 15 per cent.
ks charged extra at s. 6d. each and credited hen returned at 2s.	Do. in ferro concrete work, add 20 per cent.
nsport hire per day:	Do. in underpinning, add 60 per cent.
rt and horse, 32s.	Lias lime concrete, 56s. per yd. cube.
ton motor lorry, £7.	Breeze Concrete, 52s. per yd. cube.
eam lorry, 5-ton, £6 10s.	Do. in lintols, etc., 5s. 6d. per ft. cube
ailer, 32s. 6d.	
m roller, £5 5s.	
ater cart, 35s.	
INER.	
urer, 2s. 1d. per hour.	Stoneware drains, jointed in cement, tested pipes, 4-in. 4s., 6-in. 5s. 9d., 9-in. 7s. per ft.
erman, 2s. 2d. per ur.	Cast-iron drains, jointed in lead, 4-in. 12s., 6-in. 21s., 9-in. 30s. per ft.
layer, 2s. 4d. per ur.	Note.—These prices include digging and filling for normal depths, and are average prices.
ber, 2s. 4½d. per hour.	
chman, 7s. per shift.	
eware pipes, tested ality, 4-in. 3s., 6-in. 9d., 9-in. 7s. 11d. per	
iron pipes, coated, lengths, 4-in. 5s., 6s., 9-in. 8s. per yd.	
and cement and sand, Excavator above	
for caulking, 53s. cwt.	
t, 1s. 10d. per lb.	
KLAYER.	
layer, 2s. 4d. per r.	
rer, 2s. 1d. per hour.	Brickwork in stone lime mortar, Flettons, or equal, £52 per rod.
lder, 2s. 2d. per hour.	Do. in cement do. £58 per rod.
	Do. in stocks, add 25 per cent. per rod.
n stocks, 109s. per M.	Do. in blues, add 320 per cent. per rod.
ns, 82s. per M.	Do. circular on plan, add 12½ per cent. per rod.
rdshire blue 230s M.	Facings, fair 3d. per ft. sup. extra.
icks, 2½ in., 260s. per	Do. picked Flettons, 6d. per ft. sup. extra.
l, salt, white, and stretchers, £29 10s. M.	Do. picked stocks, 8d. per ft. sup. extra.
aders, £29 per M.	Do. salt, white or ivory glazed, in areas, 6s. 6d. per ft. sup. extra.
s. extra, 110s. per M.	Tuck pointing, 1s. 3d. per ft. sup. extra.
ls, less, £1 per M.	Weather pointing, 8d. per ft. sup. extra.
t and sand, see Ex- tor above.	Granolithic and Cement paving, 1-in., 5s. 4d. per yd. sup.
grey stone, 78s. per	Do. 1½-in., 6s. per yd. sup.
lime mortar, 33s. 6d. yd.	Do. 2-in., 7s. 4d. per yd. sup.
course, in rolls of 5s., 9 in. 8s., 14 in. 18 in. 16s. per roll.	Fixing only damp course, ex rolls 4d. per ft. sup.
	Asphalte, damp course, ½ in., 1s. 8d. per ft. sup.
	Do. vertical, 2s. per ft. sup.
	Slate damp course, 2s. 3d. per ft. sup.
	Asphalte paving in two thicknesses, ¾-in., 13s. 3d. per yd.
	Do. skirting, 6-in., 1s. 9d. per ft.
(INCLUDING SLATE).	
2s. 4d. per hour.	Hoisting and setting stone, 2s. 6d. per ft. cube.
er, 2s. 5d. per hour.	Do. for every 10 ft. above 30 ft., add 15 per cent.
r, 2s. 1d. per hour.	Plain face Portland basis, 3s. per ft. sup.
er, 2s. 2d. per hour.	Do. circular, 4s. 6d. per ft. sup.
	Sunk face, 4s. 2d. per ft. sup.
d stone:	Do. circular, 5s. per ft. sup.
ed, 5s. 2d. per ft. e.	Joints, arch, 2s. 8d. per ft. sup.
ed, 5s. 3d. per ft.	Do. sunk, 2s. 8d. per ft. sup.
one, 3s. 9d. per ft.	Do. do. circular, 4s. 6d. per ft. sup.
d red, 8s. 6d.	Circular-circular work, 20s. per ft. sup
trade extras for blocks.)	Plain moulding, straight, per inch of girth, 11d. per ft. run.
	Do. circular, 1s. 2d. per ft. run.
	Half sawing, 1s. 2d. per ft. sup.
	Add to the foregoing prices if in York stone 35 per cent.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
MASON—(continued)	
York paving, av. 2½ in. 3s. per ft. sup.	Do. Mansfield, 12½ per cent.
York Templates Sawn, per ft. cube, 15s.	Deduct for Bath, 33⅓ per cent.
Slate shelves, rubbed, 1 in., 2s. 8d. per ft. sup.	Do. for Chilmark, 5 per cent.
Cement and sand, see "Excavator," etc., above.	Setting 1-in. slate shelving in cement, 9d. per ft. sup.
	Rubbed round nosing to do., 9d. per ft. lin.
	York Steps, rubbed T. & R., 41s. ft. cub. fixed.
SLATING AND TILING.	
Slater, 2s. 3d. per hour.	Slating, 3-in. compo nails, Portmadoc or equal: Ladies 102s., Countess 118s., Duchess 130s., per square.
Tiler, 2s. 3d. per hour.	Westmoreland, in diminishing courses, 165s. per square.
Scaffolder, 2s. 2d. per hour.	Delabole do., 130s. per square.
Labourer, 2s. 1d. per hour.	Add, if vertical, 9s. 6d. per square approx.
N.B. — Tiling is often "Piecework."	Add, if with copper nails, 7½ per cent. per square approx.
Slates, 1st quality, per M.: Portmadoc, Ladies £19 10s., Countess £35, Duchess £47.	Double course at eaves, 1s. 1d. per ft. approx.
Clips, lead, 11d. per lb.	Tiling, 4-in. gauge, 5th course nailed, in hand-made tiles, average 117s. per square.
Clips, copper, 2s. 5d. per lb.	Do. machine-made do. 105s. per square.
Nails, compo, 55s. per cwt.	Fixing lead soakers, 1s. per dozen.
Nails, copper, 2s. 4d. per lb	
Cement and sand, see "Excavator," etc., above.	
Handmade tiles, 150s. per M.	
Machine-made tiles, 135s. per M.	
Westmoreland slates, large 260s. per ton, Peggies 200s. per ton.	
CARPENTER AND JOINER.	
Carpenter, 2s. 4d. per hour.	Fir, fixed, in wall plates, lintels, sleepers, etc., 14s. per ft. cube.
Joiner, 2s. 4d. per hour.	Do. framed in floors, roofs, etc., 14s. 9d. per ft. cube.
Labourer, 2s. 1d. per hour.	Do. framed in trusses, etc., including ironwork, 15s. 3d. per ft. cube.
Timber, average prices, ex-London stock and d/d works or site.	Pitch pine, add 33 1-3 per cent.
	Fixing only boarding in floors, roofs, etc., 22s. per sq.
Archangel (equal to)	Sarking felt laid, 1 ply 1s. 10d., 3 ply 2s. 6d. per yd.
1st £70, 2nd £66 10s., 3rd and U/S. £64 10s. per std., or	Centering for concrete, etc., including horsing and striking, 104s. per sq.
1st 8s. 6d., 2nd 8s., 3rd and U/S. 7s. 7d. per ft. cube.	Slate battening, 33s. per sq
Boards, 1st £71, 2nd £68, 3rd and U/S. £65 per std.	1-in. deal gutter board on firring, 115s. per sq.
Do. F.E., 3rd and U/S. £58.	1½-in. molded casements in 4 sqs., glazing beads and hung, 4s. per ft. sup.
Battens, 3rd and U/S. £51.	2-in. do. do. 4s. 6d. per ft. sup.
Yellow: 1st £83 10s., 2nd £69, 3rd and U/S. £64 5s. per std.	Deal cased frames, oak sills, 2-in. D.H. sashes, brass pullies, etc., 5s. 9d. per ft. sup.
Norwegian or Swedish:	Doors, 4-pan. sq. b.s., 2-in. 4s. 6d. per ft. sup.
Boards, planed, U/S. £62 per std., equals 63s. 6d. per sq. of 1 in.	Do. do. do. 1½-in., 3s. 9d. per ft. sup.
Flooring, P.E., U/S. 61s. per sq. of 1 in.	Do. do. molded b.s., 2-in., 5s. per ft. sup.
T. and G. and matching, U/S, 65s. per sq. of 1 in.	Do. do. do. 1½-in., 4s. 3d. per ft. sup.
Wainscot, oak, 3s. 9d. per ft. sup. of 1 in.	If in oak multiply 6 times.
Mahogany, 4s. per ft. sup. of 1 in.	If in mahogany multiply 6 times.
Do. Cuba, 4s. 9d. per ft. sup. of 1 in.	If in teak multiply 7½ times.
Teak, 4s. 6d. per ft. sup. of 1 in.	Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, ¾-in. 17s., 1-in. 19s., 1¼-in. 22s. per yd. sup., average.
	Staircase work, deal:
	1-in. riser, 1¼-in. tread, fixed, 5s. 8d. per ft. sup.
	2-in. deal strings, fixed, 5s. 6d. per ft. sup.
PLUMBER AND RAIN-WATER GOODS.	
Plumber, 2s. 4½d. per hour.	Milled lead and labour in gutters, flashings, etc., 83s. 6d.
Mate or labourer, 2s. 1d. per hour.	Lead pipe, fixed, including running joints, bends, and tacks, ½-in. 2s. 3d. per ft.
	Do. ¾-in., 3s. per ft.
	Do. 1-in., 3s. 6d. per ft.
	Do. 1¼-in., 4s. 2d. per ft.
Lead, milled sheet, 53s. per cwt.	Lead waste or soil, fixed as above, complete, 2½-in., 9s. per ft.
Do. drawn pipes, 53s. 6d. per cwt.	Do. 3-in., 10s. per ft.
Do. soil pipe, 56s. 6d. per cwt.	Do. 4-in., 11s. 3d. per ft.
Do. scrap, 30s. per cwt.	Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½-in., 3s. 6d. per ft.
Copper, sheet, 2s. 4d. per lb.	Do. 3-in., 3s. 10d. per ft.
Solder, plumbers, 1s. 8d. per lb.	Do. 4-in., 4s. 3d. per ft.
Do. fine, 2s. 8d. per lb.	Cast-iron H.R. gutter, fixed, with all clips, etc., 4-in., 2s. 7d. per ft.
Cast-iron pipes, etc.:	Do. O.G., 4-in., 3s. 5d. per ft.
L.C.C. soil, 3 in. 9s. 3d., 4 in., 11s. 3d. per yd.	Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4-in., 6s. per ft.
R.W.P., 2½ in. 6s. 3d., 3-in. 7s. 6d., 4-in. 10s. per yd.	Do. 3-in., 5s. per ft.
Gutter, 4-in. H.R. 4s. 10d. 4-in. O.G. 5s. 3d. per yd.	Fixing only:
	W.C. pans and all joints, P. or S., and including water waste preventers, 58s. each.
	Baths only, with all joints, 50s.
	Lavatory basins only, with all joints on brackets, 45s. each.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, no fixed rate.	
Glass: 4th in crates: Clear, 21 oz. 9d., 26 oz. 10d.	Glazing, in putty, clear sheet, 21 oz., 1s. 4d., 26 oz. 1s. 6d.
	Glazing in beads, 21 oz. 1s. 3d., 26 oz. 1s. 5d. per ft.
Cathedral, ordinary, 6½d. per ft.	Patent glazing in rough plate, normal span, 2s. 4d. to 2s. 9d. per ft.
Pold, Plate, ¼ in., 5s. per ft. and up.	Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 5s. and up, per ft. sup.
Rough plate, 3-16 in., 7½d., ¼ in., 8½d. per ft.	
Linseed oil putty 30s. per cwt.	
PLASTERER.	
Plasterer, 2s. 4d. per hour.	
Labourer, 2s. 1d. per hour.	
Chalk lime, 72s. per ton.	Lathing with sawn laths, 2s. 9d. per yd.
Hair, 37s. 6d. per cwt.	Metal lathing, 3s. per yd.
Sand and cement, see "Excavator," etc., above.	Floating in Portland, 1 to 3, for tiling or wood-block, ¾-in., 3s. 9d. per yd.
Lime putty, 5s. 6d. per cwt.	Do. vertical, 4s. per yd.
Hair mortar, 44s. per yd.	Render, on brickwork, 1 to 3, 4s. per yd.
Fine stuff, 45s. 9d. per yd.	Render in Portland and set in fine stuff, 4s. 10d. per yd.
Sawn laths, 6s. 9d. per bdl.	Render, float, and set, trowelled, 4s. 9d. per yd.
Keene's cement, 90s. per ton.	Render and set in Sirapite, 4s. 4d. per yd.
Sirapite, 70s. per ton.	Do. in Thistle plaster, 4s. 2d. per yd.
Do. Fine, 71s. 6d. per ton.	Extra, if on but not including, lathing, any of foregoing, 1s. 4d. per yd.
Plaster, 83s. per ton.	Extra, if on ceilings, 8d. per yd.
Do. fine, 84s per ton.	Angles, rounded, Keenes on Keenes, 10d. per ft. lin.
Thistle plaster, 68s. per ton.	Plain cornices, in plaster, per inch girth, including dubbing out, etc., 4½d. per ft. lin.
Lath nails, 8d. per lb.	White glazed tiling set in Portland and jointed in Parian, 37s. per yd.
DECORATOR.	
Painter, 2s. 3d. per hour.	
Labourer, 2s. 1d. per hour.	
French polisher, 2s. 4d. per hour.	
Paperhanger, 2s. 3d. per hour.	
Genuine white lead, 102s. per cwt.	Lime whiting 2 coats 6½d. per yd. sup.
Linseed oil raw, 9s. per gall.	Wash, stop, and 2 coats whiten, 1s. 1d. per yd. sup.
Do. boiled 9s. 6d. per gall.	Do. and 2 coats distemper with proprietary distemper, 1s. 6d. per yd. sup.
Turpentine, 14s. 3d. per gall.	Knot, stop, and prime, 10d. per yd. sup.
Liquid driers, 21s. per gall.	Plain painting, including moldings, and on plaster or joinery, 1st coat, 1s. 7d. per yd. sup.
Knotting, 29s. per gall.	Do. subsequent coats, 1s. 5d. per yd. sup.
Distemper, washable in ordinary colours 54s. 6d. per cwt.	Do. enamel coat, 2s. 9d. per yd. sup.
Petrifying liquid, 5s. 3d. per gall.	Brush grain and 2 coats varnish, 5s. 6d. per yd. sup.
Double size, 7s. per firkin.	Figured do. do. 9s. 6d. per yd. sup.
Pumice stone, 9d. per lb.	French polishing, 2s. per ft. sup.
Hard stopping, 1s. per lb.	Stripping old paper and preparing, 2s. 3d. per piece.
Varnish, hard oak, 20s. per gall.	Hanging paper, ordinary, 2s. 6d. per piece.
Do. Outside do., 20s. 6d. per gall.	Do. fine, 3s. 3d. and upwards per piece.
	Varnishing paper, 1 coat, 17s. per piece.
	Canvas, strained and fixed, 3s. per yd. sup.
	Varnishing, hard oak, 1st coat, 1s. 9d. per yd. sup.
	Do. each subsequent coat, 1s. 6d. per yd. sup.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
DECORATOR—(continued).	
Varnish, Copal, 23s. per gall.	
Do. Flat, 23s. per gall.	
Do. Paper, 23s. per gall.	
French polish, 32s. per gall.	
Turps substitute, 5s. 6d. per gall.	
STEELWORK, SMITHWORK, etc.	
Smith, no fixed rate.	Mild steel in trusses, etc., erected, £57 10s. pe
Mate, no fixed rate.	Do. in small sections as reinforcement, £45 pe
Erector, 2s. 2d. per hour.	Do. in compounds, £51 per ton.
Fitter, 2s. 2d. per hour.	Do. in bar or rod reinforcement, £47 per ton
Labourer, 2s. 1d. per hour.	Wrot. iron in chimney bars, etc., including bu in, 63s. per cwt.
Mild steel in British standard sections, £41 per ton.	Do. in light railings and balusters, 82s. per
Sheet steel:	Fixing only corrugated sheeting, including w and driving screws, 2s. 4d. per yd.
Flat sheets, black, £61 10s. per ton.	
Do. Galvd., £64 10s. per ton.	
Corrugated sheets, black*	
Do. Galvd., £64 10s. per ton.	
Driving screws, galvd., 7s. per grs.	
Washers, galvd., 3s. 6d. per grs.	
Bolts and nuts, 77s. per cwt. and up.	
* Manufacturers are at present producing practically only galvanised corrugated sheets.	
SUNDRIES.	
Fibre or wood pulp boardings, 7d. per ft. sup.	Fibre boardings, fixed on, but not including or grounds, 10d. per ft. sup.
Thistle Plaster Board 2s. 4d. per yd. sup.	Thistle Board, fixed as last, 5s. 9d. per yd. su
Asbestos sheeting, 5-32 in., grey flat, 3s. 9d. per yd. sup.	Asbestos sheeting, fixed as last, flat, 6s. 3d. p sup.
Do. corrugated, 7s. per yd. sup.	Do. do. corrugated, 10s. 6d. per yd. sup.
Asbestos Composition Flooring:	Laid in two coats, average ¾-in. thick, in colours, 19s. per yd. sup.
Metal casements for wood frames, domestic sizes, 3s. 9d. per ft. sup.	Hanging only metal casements in, but not incl wood frames, 6s. 3d. each.
Do. in metal frames, 4s. 6d. per ft. sup.	Building in metal casement frames, 8d. per ft.
Asbestos cement slates or tiles, 5-32 in. punched, per M., grey £27, red £29.	Asbestos slating or tiling on, but not inc battens or boards, plain "diamond" per s grey, 70s., red 72s.
Waterproofing compounds for cement:	Add about 75 per cent. to 100 per cent. to th of cement used (about 3s. to 4s. per bus cement).
Wrought iron R.W. goods: R.W. gutter, 4 in., per yd. 2s. 3d.	Gutter-fixed, 2s. 2d. per ft.
R.W.P., 3 in., per yd. 3s. 3d.	R.W.P. fixed, 2s. 7d. per ft.

These lists are strictly copyright.

Standard Specification for Portland Cement.

A revised edition of the British Standard Specification for Portland Cement, Report No. 12-1920, has recently been issued by the British Engineering Standards Association. It may be recalled that the standardisation of Portland cement was undertaken in 1903, on the initiation of Sir William Matthews, K.C.M.G., who recently, due to ill health, retired from the chairmanship of the Cement Committee, which he had held continuously from its formation, the position now being filled by Mr. Maurice F. G. Wilson, M.Inst.C.E.

The British Standard Specification was originally issued in 1904, and following the established practice of the Association, has been revised from time to time so as to keep it abreast of the progress of manufacture, and the requirements of engineers and architects. The present edition supersedes that published in 1915, its issue having been found necessary owing to the experience gained and improvements in manufacture effected since that date, and the altered conditions of storage now coming into existence.

The following are the principal modifications which have been made:

1. A paragraph has been inserted making clear that no cement to which slag has been added, or which is a mixture of Portland cement and slag, will comply with the specification.

2. Provision has been made for sampling cement when stored in deep silos.

3. The specific gravity test has been eliminated.

4. The aeration of cement before testing for setting time has been dispensed with.

5. A provision has been inserted permitting the deduction from the total lime content of the proportion of lime necessary to combine with the sulphuric anhydride present when calculating the lime ratio.

6. The medium and slow setting cements have been replaced by a grade having a minimum initial setting time of twenty minutes, and a maximum final setting time of ten hours. The quick setting cement which formed one of the three standard grades is retained in the specification, but is only to be supplied if specially required. A minimum final setting time is not now specified.

7. The clause relating to the supply by the vendor, free of cost, of a certificate that the cement has been tested analysed and complies in all respects the specification has been modified t vide that if such a certificate is re it must be so specified at the ti purchase.

The specification may be obtained the offices of the British Engin Standards Association, 28, Victoria S S.W.1, or from the publishers, M Crosby Lockwood and Son, 7, Stati Hall Court, E.C.4, price 1s. 2d. pos

Competitions Oper

Society of Architects.

Architectural scholarship for me drawings of Licentiates and Stu Closing date October 1.

Lille.

Extending and beautifying the Entrance fee, 300 francs. Availab premiums, 128,000 francs. Apply Mayor. Competition closes Octobe

Liége.

Monument to commemorate the d of Belgium against the German in One million francs has been subscril the project. Apply M. Léon Ma Bureau des Beaux Arts, Hotel de Liége, Belgium.

BEAUDEXOL

SUPER WATER PAINT

is not a copy of any other Water Paint, but an improvement on the best hitherto known.

BEAUDEXOL does not depend on loading with disinfectants for its Sanitary qualities.

BEAUDEXOL is absolutely non-absorbent and washable.

WE are more than willing to supply workable samples of our products, so that you may thoroughly satisfy yourself as to the value of these materials.

WE trust you will grant us the pleasure of collaborating with you on any work where our specialised knowledge of Paint may be of service.

BROWN & CRITCHLEY, LTD.,
LENZIE, SCOTLAND.

Telegrams: WALPA, LENZIE. Telephone: 51 Kirkintilloch

For Drawings and Plans:—

WHATMAN

Genuine Hand Made

DRAWING PAPERS

UNRIVALLED FOR 150 YEARS.

Official price list can be obtained on request from any Artists Colourman, Drawing Office Stationer or Paper Merchant in the United Kingdom.

Double Elephant	40" x 26¾"	133 lbs	480's	1/8d. per sheet nett
Imperial	30½" x 22½"	72 lbs	480's	11d. " " "
Royal	24" x 19"	44 lbs.	480's	8½d. " " "

THESE ARE ONLY A FEW OF THE MOST POPULAR OF THE 75 VARIETIES OF SIZE, SUBSTANCE & SURFACE.

LOOK FOR THE WATERMARK IN EVERY SHEET, THUS:

J. WHATMAN

In case of any difficulty in obtaining supplies or particulars: write the Sole Mill Representatives:—

H. REEVE ANGEL & Co. 9, BRIDEWELL PLACE, E.C.4.
TELEPHONE: CITY 7414 (3 LINES) TELEGRAMS: PAPERMEN, LONDON.

Sylvadure

WOOD PRESERVER

As specified by the
GLASGOW CORPORATION
For their Housing Scheme, 1920-21.

New Buildings—
"SYLVADURE" renders the new wood permanently proof against DRY ROT.

Old Buildings—
"SYLVADURE" exterminates existent DRY ROT and prevents its recurrence.

"SYLVADURE" is used by the Admiralty and the War Office and is easily the best time-resisting coating. It should be specified and scheduled by all Architects, Builders, etc.

Wm. MACLEAN SONS & Co.,
BROAD STREET HOUSE,
LONDON, E.C.4.

Electrical Notes

Electric Steel-making.

Mr. C. G. Carlisle, in reading a paper before the Iron and Steel Institute, said that the history of steel-making during the last thirty years could be written in terms of a struggle to keep sulphur and phosphorus down. The electric basic-lined furnace has made it possible to obtain steel containing 0.02 per cent. sulphur, and sometimes, as in the case of some of the alloy steels, 0.01 per cent. Size of furnace evidently has an important effect on the elimination of sulphur. This is due mainly to the fact that the oxidising slag can be raked off with greater minuteness in the small size of furnace, but it is also due to a larger slag area in proportion to weight of bath.

Phosphorus cannot be reduced in like degree, due to some extent to the greater care needed in adding ore, as the cutting action on the banks is slightly greater owing to the greater length of slag line per unit weight of metal. It is the ability and art of the furnaceman in controlling his slags so as to obtain liquidity and correct thickness over the whole area of the bath throughout the charge, and more especially during the refining period, that determines whether sound metal is produced or not. In no other steel process does the slag play such a vital part, or call for such wariness from the furnaceman. Five or ten minutes' neglect of the slag, and the metal often will be converted from sound to unsound material, as it becomes uncovered owing to the slag losing fusibility. The interplay between current and reagent, and whether to increase or reduce the amperage of the first, or which of several materials composing a slag to add in any contingency arising, become matters of intuition on the part of the operator, as well as calling on all his resources.

Nickel-chrome Steels.

What is required is the amount of confidence to be placed in the final product—the steel itself. It can be claimed from experience that nickel-chrome steels, during any given period (say, several months), and on a number of test-pieces and samples for inspection, will give a large percentage of success. This is the test of time which any new process is called upon to meet. The torsion tests are particularly interesting. To obtain three revolutions of twist with a tensile strength of sixty-seven tons, denotes density and sound material.

A practical application of this steel was made over two years ago when the demand for high-quality tungsten steel aero-engine exhaust valves was at its maximum; stamping dies, made from this nickel-chrome steel and used for embossing the valve, were watched. A pair of dies, used alternately, stamped 24,000 valves without requiring machining, and as the dies are still in use it is estimated that 60,000 to 70,000 valves must have been stamped in them, with only a few machinings to resurface the dies.

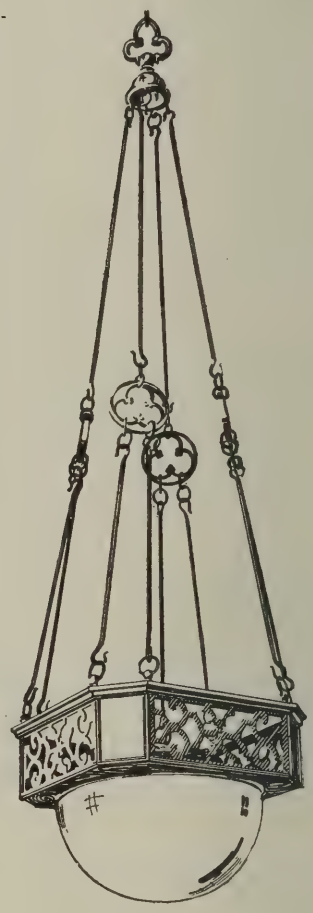
With gas furnace heating of samples, the electric steel remains sound with 200 tons pressure, whereas the crucible steel crushes with loads of 190 and 199 tons respectively; the mean yield point of the crucible steel is 105 tons, of the electric, 112.5 tons. The problem of die steels is very complex, as the purposes for which they are required are multitudinous, but the author shows that wear, shock, compression, and rigidity of shape have all been satisfied by using electric steels of various qualities.

Cutting Power.

With regard to the cutting power of electric steels the factors and processes involved are so many that it is exceedingly difficult sometimes to form a judgment. As cutting involves another steel to be cut, and since this may be far from homogeneous, durability testing cannot be regarded in the same manner as tensile testing. It only requires one hard spot in the path of the tool under test to vitiate the result, by destroying a good tool nose, which would otherwise have had a long life. In a series of tests four tools (two crucible and two electric), 16 to 18 per cent. tungsten type, were made from four separate bars, and a research was carried out to find the relation of cutting speed to endurance. The author was not satisfied with the ordinary test that manufacturers usually adopted, of running at high speeds. He wanted to find out what happened at speeds lower than these, but yet well over ordinary shop practice, and particularly to determine the highest speed at which the curve would flatten out, i.e., give a very long life. The electric steel tool gave the most satisfactory curve, and by dropping the speed from 55 to 45 ft. only, the life was increased from eight and a half minutes to 145½ minutes.

FITTINGS OF QUALITY

SIMPLEX ELECTRIC LIGHT FITTINGS



ENQUIRIES INVITED.

SIMPLEX CONDUITS LTD

GARRISON LANE · BIRMINGHAM
113-17 CHARING CROSS ROAD — LONDON
MANCHESTER · GLASGOW · BRISTOL
NEWCASTLE · LIVERPOOL · LEEDS
··· SWANSEA · AND · CARDIFF ···

The Book Retrospective and the Value of Suggestion.

The work of past centuries offers a rich fund of suggestion to the Architect of to-day, and a panorama of evolution may be studied in certain of the books published by this House. In "A Chronological History of British Architecture," "Small Houses of the late Georgian Period," "Recent English Domestic Architecture," and "Recent English Ecclesiastical Architecture," every phase of British Architecture is dealt with by an expert, who, realising the special need of the practising Architect and Architectural student, has so treated his subject as to extract therefrom the maximum of suggestive value, a value materially enhanced by the fine illustrations which complete each volume.

hronological History of British Architecture. *Price* 15/6

nall Houses of the late Georgian Period. *Price* £1-1-0

cent English Domestic Architecture, 3 vols. *Price* 12/6 *ea.*

cent English Ecclesiastical Architecture. *Price* 6/6

Postage extra on above prices.

CHNICAL JOURNALS, Ltd.
-29, TOTHILL STREET, S.W.1

AN ABSOLUTELY UNIQUE WORK ON DECORATION.

BY R. GOULBOURN LOVELL, A.R.I.B.A.

"HOME INTERIORS" is an absolutely unique work for all interested in any way in the application of colour to internal decoration.

Not only does it contain a series of 38 large facsimile water-colour drawings, providing, in complete detail, suggested decorative schemes for all sorts of houses, with full half-size detail plans, instructions, etc. It does much more than this.

Patented Colour Charts.

It provides, for the first time, the means of drawing up similar schemes, *with absolute accuracy.* For this purpose, it includes a series of patented mechanical colour charts, designed for the selection of colour schemes and harmonising colours. By the use of these charts the exact complementary of any given colour is at once disclosed, and at the same time not only those other colours that can be used to produce any desired scheme, but also the proportion of each that must be used to give the best possible effect. These charts teach, moreover, in a particularly valuable manner, the whole theory and practice of colour.

Large Water-Colour Drawings.

But, apart even from this unique invention, the many large facsimile water-colour drawings of specimen rooms would be extremely valuable as showing practical and economical schemes of decoration that will appeal as being decidedly novel and at the same time in the best of taste. Moreover, these plates are the first large-size plates which show how windows can be treated effectively and without obscuring the light.

Full Working Details.

Each plate, moreover, is accompanied by full half-size details, as well as complete explanatory notes, explaining its principles and objects, and pointing out an alternative scheme where, for any reason, it cannot be adopted in its entirety.

Two Opinions.

MR. J. LAWRIE, *Managing Director, William Whiteley, Ltd.*: "There is, in my opinion, nothing to equal the work. The colour-blending schemes, clearly described and illustrated, are quite unique; especially does it appeal to the ambitious young man aspiring to excel in his calling. I sincerely congratulate the author on a wonderful treatise on colour-blending."

BUILDING NEWS: "The small householder, at a rental of from £25 to £75 a year, has not had much done for him yet as regards the economical and effective decoration of his home, and 'Home Interiors' will prove a boon to decorators and designers of such dwellings and all concerned in their adornment. We cordially recommend the work to all."

A FREE BOOKLET.

The publishers have prepared an interesting booklet giving full particulars of this unique work, which will be sent free of charge, and without any obligation, upon receipt of this form:—

To the CAXTON PUBLISHING CO., LTD., 147, SURREY-STREET, LONDON, W.C.2.

Please send me, free of charge, and without any obligation on my part, detailed booklet on "Home Interiors."

NAME .....
(Send this form or a postcard.)

ADDRESS .....
.....
.....

A PRACTICAL WORK FOR ALL ENGAGED IN BUILDING.

BY G. A. T. MIDDLETON, A.R.I.B.A.

"MODERN BUILDINGS: Their Planning, Construction, and Equipment," aims to put before its readers all the essential parts of a modern building, to describe modern methods of planning, and of constructing consecutively, and as they occur in the actual work.

It explains all possible sorts of buildings, whether of the simplest or of the most complicated character, and supplies elucidative illustrations by the leading architects of the day. And it gives the principles that underlie building practice as it is undertaken in Great Britain and in the Colonies.

The aim of the publishers and author has been to make this work indispensable to all who are

Practically Concerned with the Building Trades.

The construction of buildings, as well as the subject of finishings and fittings, from the simplest to the most elaborate, is detailed in a manner equally useful to the artisan as to the architect. The tools used are described, as well as the methods of using them.

Attention is given to shoring, underpinning, and dealing with dangerous structures—a matter that is of increasing importance to builders whose businesses lie in our great cities.

Examples are included in this work of well-written specifications, such as are now in use for small and large works.

All information concerning the heating and ventilating of buildings, the introduction of electric light, and of gas lights of many new forms, on the combination of steel and concrete for large buildings, on the principles of drainage, on dilapidations, easements, etc., etc., is found here.

No point that concerns builders and building has been overlooked, and it is safe to say that this work—which is issued on terms that bring it within reach of everyone interested in the building trades—will save its cost when it has been in use a very short time.

Two Opinions.

MR. F. J. FORSTER, *Architect and Surveyor,* Great James-street, London, W.C.: "It is completely up-to-date. The plates are models of what architectural draughtsmanship should be. I think the detailed treatise on brickwork must be the best to be found anywhere."

MR. JAMES S. STEEL, *Builder and Contractor,* Gourock and Greenock: "As a practical builder and teacher of building construction, I am of opinion that the work is second to none, first in its object, and more particularly in its careful production."

A FREE BOOKLET.

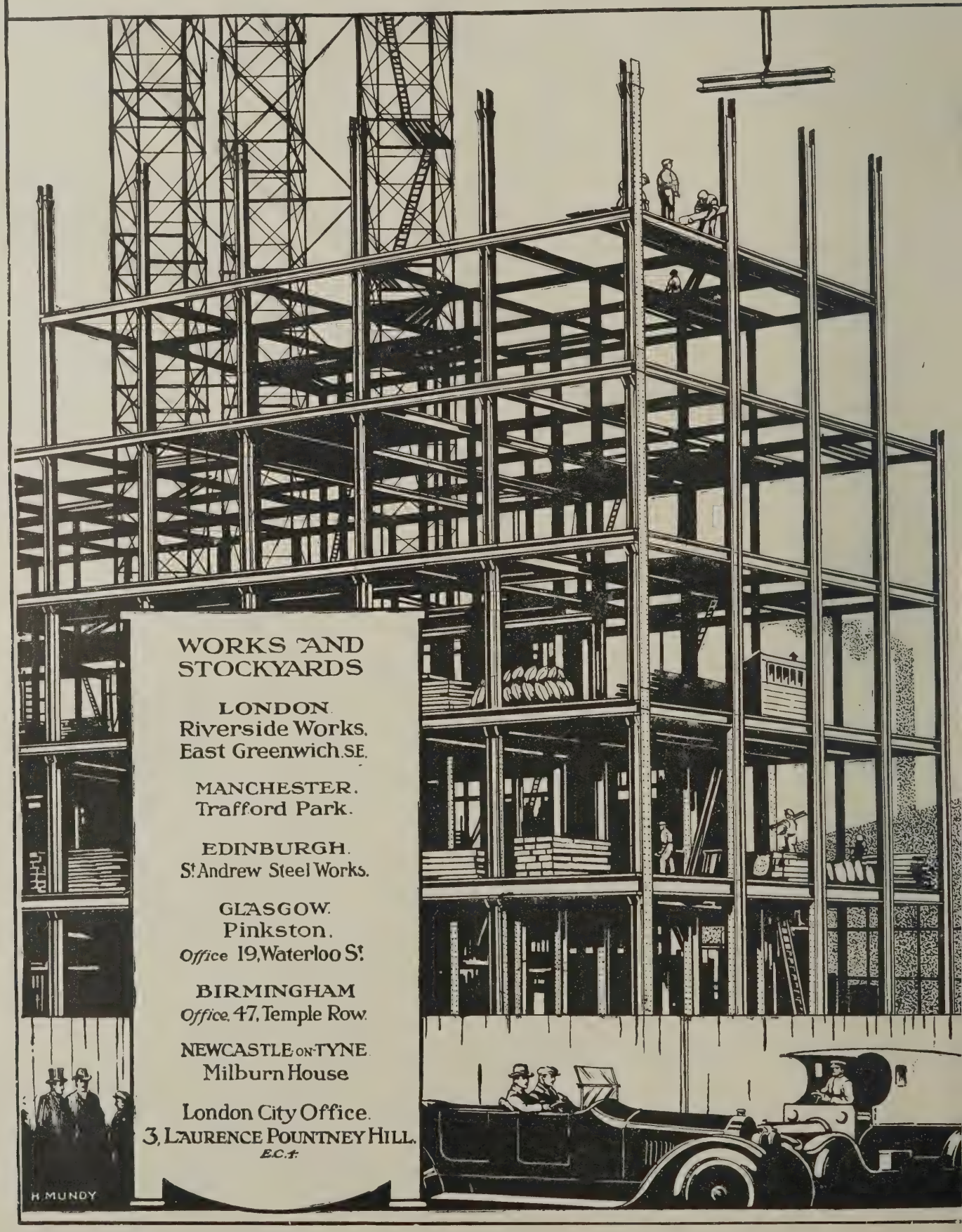
To the CAXTON PUBLISHING CO., LTD., 147, SURREY-STREET, LONDON, W.C.2.

Please send me, free of charge, and without any obligation on my part, your illustrated booklet on "Modern Buildings."

NAME .....
(Send this form or a postcard.)

ADDRESS .....
.....
.....

REDPATH BROWN & Co., Lt
CONSTRUCTIONAL ENGINEER



BEAUDEXOL

SUPER WATER PAINT
IN 40 STANDARD SHADES

Specify BEAUDEXOL because it is

ARTISTIC, WASHABLE, DURABLE, SANITARY.

ABSOLUTE STRAIGHT PIGMENT BASE
LINSEED OIL & COPAL GUM MEDIUM.

BEAUDEXOL IS SUPERB.

BROWN & CRITCHLEY, LTD.,
LENZIE, SCOTLAND.

Branches :—ABERDEEN, EDINBURGH, NEWCASTLE, BLACKBURN, LIVERPOOL, NOTTINGHAM.

For Drawings and Plans :—

WHATMAN

Genuine Hand Made
DRAWING PAPERS
UNRIVALLED FOR 150 YEARS.

Official price list can be obtained on request from any Artists Colourman, Drawing Office Stationer or Paper Merchant in the United Kingdom.

Double Elephant	40" x 26¾"	133 lbs	480's	1/8d. per sheet nett.
Imperial	30½" x 22½"	72 lbs.	480's	11d. " " "
Royal	24" x 19"	44 lbs.	480's	6½d. " " "

THESE ARE ONLY A FEW OF THE MOST POPULAR OF THE 75 VARIETIES OF SIZE, SUBSTANCE & SURFACE.

LOOK FOR THE WATERMARK IN EVERY SHEET, THUS:

J. WHATMAN

In case of any difficulty in obtaining supplies or particulars: write the Sole Mill Representatives:—

H. REEVE ANGEL & Co. 9, BRIDEWELL PLACE, E.C.4.
TELEPHONE: CITY 7414 (3 LINES) TELEGRAMS: PAPERMEN, LONDON.

Sylvadure

WOOD PRESERVER

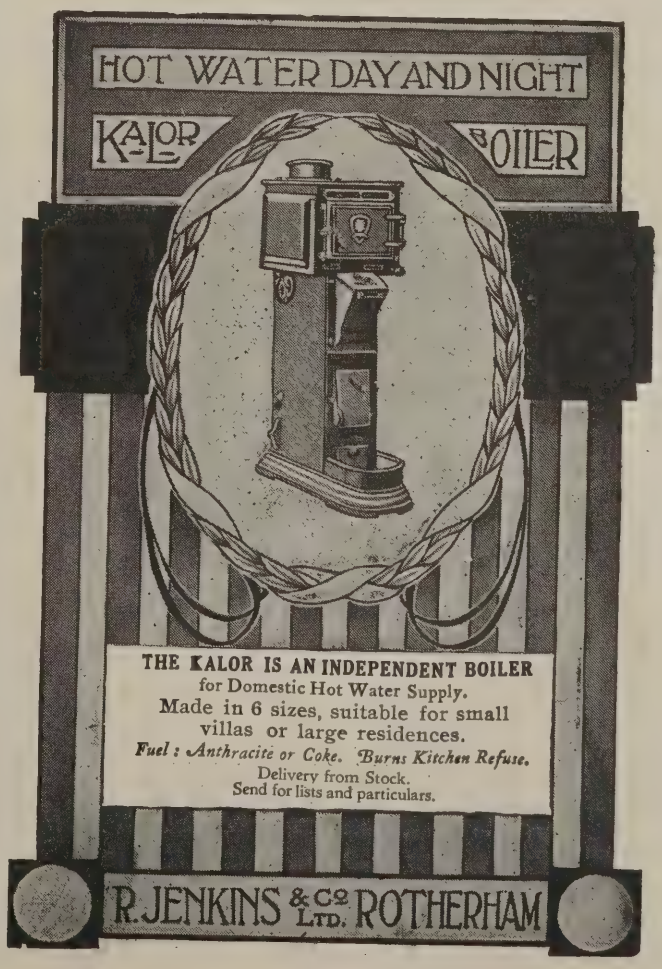
As specified by the
GLASGOW CORPORATION
For their Housing Scheme, 1920-21.

New Buildings—
"SYLVADURE" renders the new wood permanently proof against DRY ROT.

Old Buildings—
"SYLVADURE" exterminates existent DRY ROT and prevents its recurrence.

"SYLVADURE" is used by the Admiralty and the War Office and is easily the best time-resisting coating. It should be specified and scheduled by all Architects, Builders, etc.

Wm. MACLEAN SONS & Co.,
BROAD STREET HOUSE,
LONDON, E.C.4.



Electrical Notes

London Shop Lighting.

After a tour of the principal London shops a correspondent of the "Near East" draws attention to the astonishing differences in lighting to be observed, and remarks that the poor results achieved in so many examples seem due to lack of advice. He states that electricity lends itself to any scheme, whether correct illumination or frank advertisement is sought, and in most cases the large stores and multiple shops show an appreciation of its possibilities which suggests that the work has been done by experts, but it is too often obvious that the very facilities offered by the electric lamp to the window dresser have only been taken advantage of to the abuse of the simplest principles of good lighting. Contracting firms which sell and fit electrical apparatus sometimes show an inability to light their own windows correctly.

Inspection of the best shopping thoroughfares of the West End of London reveals an almost entire absence of electrical window displays of any value, and none devoted to the interest of the retail shopkeeper. Those who wish to keep their installations up to date are expected to take the initiative, and, penetrating into more or less gloomy showrooms, to inquire for appliances of the existence of which they may be unaware. If successful in finding them they will possibly be asked to judge of their effect amongst a heterogeneous collection intended for every class of use to which electric lighting can be put.

The same reproach may be made against the electrical traders with regard to fittings intended for the home. They are able to offer a variety of pieces of apparatus of attractive appearance and great usefulness, but few venture beyond a timid window display of unpriced goods, which, even if new and attractive, suggest to the uninitiated a discouraging rarity and expensiveness. A little examination of the "single purpose" displays made by leading firms in the photographic, office equipment, and certain other trades at once suggests possibilities for those who sell the more portable and attractive electrical appliances, such as kettles, flatirons, small cooking-pots and pans.

Given the courage to concentrate on a good stock of a few lines and to enlist the aid of the skilled window dresser, always with the proviso that figures of selling price and cost of operation at the local rate for electricity be marked plainly, then the electric shop may take its proper place amongst the features of our trading thoroughfares, and incidentally become a powerful business-getter for every branch of the industry.

Electrical Developments in Turkey.

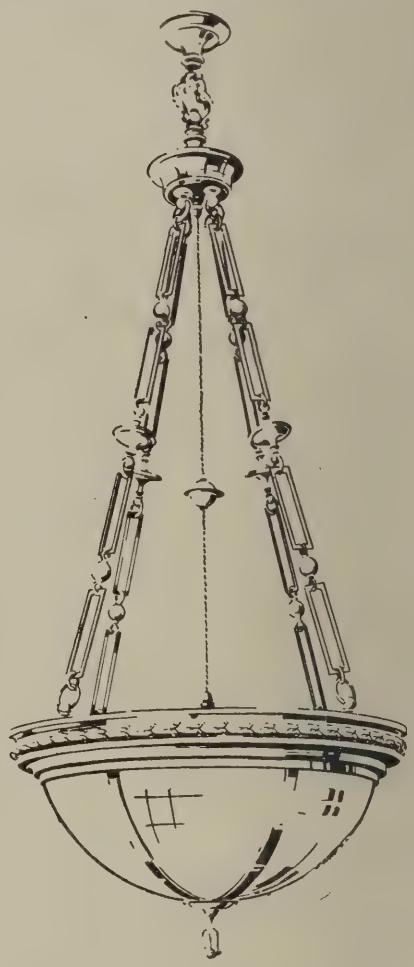
H.M. Commissioner at Constantinople, in the course of an interesting report on the Turkish market, states that there is nothing to be done in selling electrical material until the Conference definitely decides the fate of Turkey. Although most of the towns in the interior want to carry out electrical installations, the necessary financial arrangements cannot be made. A large quantity of electrical fittings, etc., of Italian and German manufacture, have come on the market. As far as machinery generally is concerned, there is a big demand for all kinds of wool-working machines and agricultural machines, but deliveries from the United Kingdom are unsatisfactory.

Private installations for electric lighting were not unknown in Constantinople during the latter years of the rule of Abdul Hamid, but it was impossible to secure any concession for producing electricity for public use. After the revolution of 1908, however, the tramways were bought up by a German combination, called the Union Ottomane, Société pour Entreprises Electriques en Orient, domiciled at Zurich, and working through the Deutsche Orient Bank. This combination which is somewhat similar in character, and probably in composition, to the Banque de Chemins de fer Orientaux, obtained authority to construct many new lines, to run tramways over the new bridge between Galata and Stamboul, and to work the system by electricity. Subsequently it secured concessions to supply the whole of Constantinople with electric light and power, though it was not till the spring of 1914 that its efforts were finally successful. The total value of these various concessions is, of course, very great.

The question arising of electrifying the tramways and creating an electric plant, all the different concerns were grouped together under one concession, which created the Société Belge des Tramways et Electricité de Constantinople.

FITTINGS OF QUALITY

SIMPLEX ELECTRIC LIGHT FITTINGS



ENQUIRIES INVITED.

SIMPLEX CONDUITS LTD

GARRISON LANE · BIRMINGHAM
113-17 CHARING CROSS ROAD — LONDON
MANCHESTER · GLASGOW · BRISTOL
NEWCASTLE · LIVERPOOL · LEEDS
··· SWANSEA · AND · CARDIFF ···

Under a Special Arrangement with Messrs. B. T. Batsford, Ltd, the following Standard Architectural Works can be obtained from Technical Journals, Ltd., 27-29, Tothill Street, S.W.1.

Monumental Classic Architecture in Great Britain and Ireland during the XVIIIth and XIXth Centuries.

By Prof. A. E. Richardson, F.R.I.B.A.

Illustrated by 80 plates, in addition to many illustrations in the text.

£4 10/- net. Postage 1/6

Some Architectural Works of Inigo Jones.

By Inigo Triggs and Henry Tanner, FF.R.I.B.A.

Illustrated by a series of Measured Drawings of the Chief Buildings designed by him; a complete list of his authentic works is also given.

35/- net. Postage 1/6

A History of Architecture on the Comparative Method.

By Prof. Banister Fletcher and Banister F. Fletcher, FF.R.I.B.A.

25/- net. Postage 1/-

Early Renaissance Architecture in England.

By J. Alfred Gotch, F.S.A.

Over 300 illustrations from photographs and drawings, and 17 Collotype plates.

20/- net. Postage 1/-

The Architecture of the Renaissance of Italy.

By William J. Anderson, A.R.I.B.A.

A general view for the use of students and others.

(Fourth Edition.) 16/- net. Postage 1/-

A Short Critical History of Architecture.

By H. H. Statham, F.R.I.B.A.

Containing 570 pages and 700 illustrations of the Chief Buildings of all Countries and Periods.

12/6 net. Postage 9d.

History of Architecture in London.

By Walter H. Godfrey.

Containing 250 illustrations and 7 folding maps.

10/- net. Postage 9d.

A Complete List of Messrs. BATSFORD'S Books stocked will be sent on application to TECHNICAL JOURNALS, LTD., 27-29, TOTHILL STREET, WESTMINSTER, S.W.1.

Architects and all interested in Architecture and the Allied Industries are invited to make the fullest use of the Reading Room Library of over 1,000 Volumes at Tothill Street, where all these books may be inspected in quietude and ease.

AN ABSOLUTELY UNIQUE WORK ON DECORATION.

BY R. GOULBOURN LOVELL, A.R.I.B.A.

"HOME INTERIORS" is an absolutely unique work for all interested in any way in the application of colour to internal decoration.

Not only does it contain a series of 38 large facsimile water-colour drawings, providing, in complete detail, suggested decorative schemes for all sorts of houses, with full half-size detail plans, instructions, etc. It does much more than this.

Patented Colour Charts.

It provides, for the first time, the means of drawing up similar schemes, *with absolute accuracy.* For this purpose, it includes a series of patented mechanical colour charts, designed for the selection of colour schemes and harmonising colours. By the use of these charts the exact complementary of any given colour is at once disclosed, and at the same time not only those other colours that can be used to produce any desired scheme, but also the proportion of each that must be used to give the best possible effect. These charts teach, moreover, in a particularly valuable manner, the whole theory and practice of colour.

Large Water-Colour Drawings.

But, apart even from this unique invention, the many large facsimile water-colour drawings of specimen rooms would be extremely valuable as showing practical and economical schemes of decoration that will appeal as being decidedly novel and at the same time in the best of taste. Moreover, these plates are the first large-size plates which show how windows can be treated effectively and without obscuring the light.

Full Working Details.

Each plate, moreover, is accompanied by full half-size details, as well as complete explanatory notes, explaining its principles and objects, and pointing out an alternative scheme where, for any reason, it cannot be adopted in its entirety.

Two Opinions.

MR. J. LAWRIE, *Managing Director, William Whiteley, Ltd.*: "There is, in my opinion, nothing to equal the work. The colour-blending schemes, clearly described and illustrated, are quite unique; especially does it appeal to the ambitious young man aspiring to excel in his calling. I sincerely congratulate the author on a wonderful treatise on colour-blending."

BUILDING NEWS: "The small householder, at a rental of from £25 to £75 a year, has not had much done for him yet as regards the economical and effective decoration of his home, and 'Home Interiors' will prove a boon to decorators and designers of such dwellings and all concerned in their adornment. We cordially recommend the work to all."

A FREE BOOKLET.

The publishers have prepared an interesting booklet giving full particulars of this unique work, which will be sent free of charge, and without any obligation, upon receipt of this form:—

To the CAXTON PUBLISHING CO., LTD., 147, SURREY-STREET, LONDON, W.C.2.

Please send me, free of charge, and without any obligation on my part, detailed booklet on "Home Interiors."

NAME .....

(Send this form or a postcard.)

ADDRESS .....

.....

.....

A PRACTICAL WORK FOR ALL ENGAGED IN BUILDING.

BY G. A. T. MIDDLETON, A.R.I.B.A.

"MODERN BUILDINGS: Their Planning, Construction, and Equipment," aims to put before its readers all the essential parts of a modern building, to describe modern methods of planning, and of constructing consecutively, and as they occur in the actual work.

It explains all possible sorts of buildings, whether of the simplest or of the most complicated character, and supplies elucidative illustrations by the leading architects of the day. And it gives the principles that underlie building practice as it is undertaken in Great Britain and in the Colonies.

The aim of the publishers and author has been to make this work indispensable to all who are

Practically Concerned with the Building Trades.

The construction of buildings, as well as the subject of finishings and fittings, from the simplest to the most elaborate, is detailed in a manner equally useful to the artisan as to the architect. The tools used are described, as well as the methods of using them.

Attention is given to shoring, underpinning, and dealing with dangerous structures—a matter that is of increasing importance to builders whose businesses lie in our great cities.

Examples are included in this work of well-written specifications, such as are now in use for small and large works.

All information concerning the heating and ventilating of buildings, the introduction of electric light, and of gas lights of many new forms, on the combination of steel and concrete for large buildings, on the principles of drainage, on dilapidations, easements, etc., etc., is found here.

No point that concerns builders and building has been overlooked, and it is safe to say that this work—which is issued on terms that bring it within reach of everyone interested in the building trades—will save its cost when it has been in use a very short time.

Two Opinions.

MR. F. J. FORSTER, *Architect and Surveyor*, Great James-street, London, W.C.: "It is completely up-to-date. The plates are models of what architectural draughtsmanship should be. I think the detailed treatise on brickwork must be the best to be found anywhere."

MR. JAMES S. STEEL, *Builder and Contractor*, Gourock and Greenock: "As a practical builder and teacher of building construction, I am of opinion that the work is second to none, first in its object, and more particularly in its careful production."

A FREE BOOKLET.

To the CAXTON PUBLISHING CO., LTD., 147, SURREY-STREET, LONDON, W.C.2.

Please send me, free of charge, and without any obligation on my part, your illustrated booklet on "Modern Buildings."

NAME .....

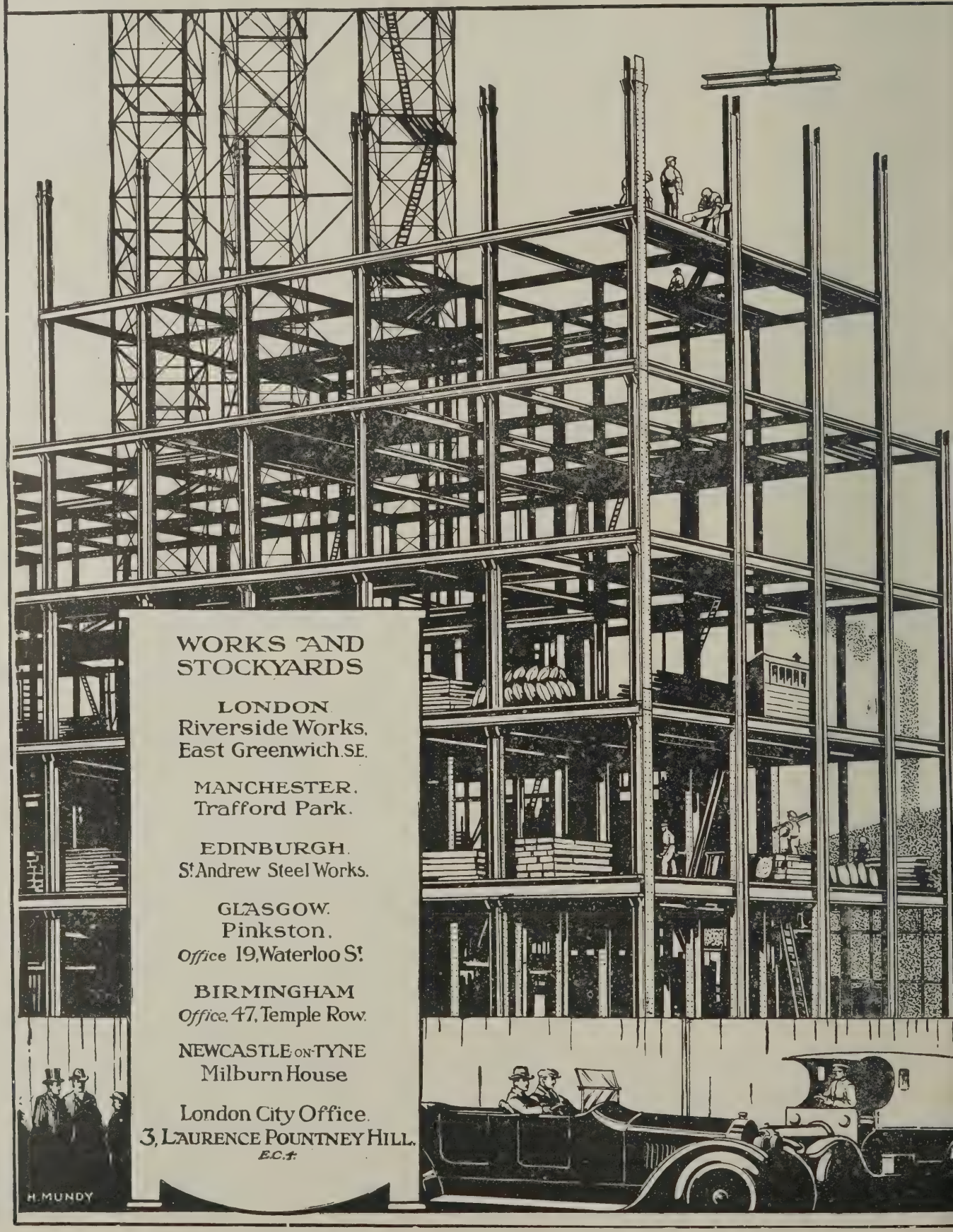
(Send this form or a postcard.)

ADDRESS .....

.....

.....

REDPATH BROWN & Co., L
CONSTRUCTIONAL ENGINEER



Concise Costing for Housing

By T. Sumner Smith, M.Q.S.A., F.I.A.

Important to Builders and Contractors

The attention of Builders and Contractors is drawn to the fact that the present edition of "Concise Costing for Housing" is nearly exhausted.

The Publishers are doubtful whether it will be possible to reprint the book and publish it at its present price. Those who have not yet secured a copy would be wise to do so without delay.

Mr. Sumner Smith's book is a manual of practical utility. Every builder and contractor requires the information which it contains.

Price 5/-
Postage 6d.

TECHNICAL JOURNALS, LIMITED,
-29, Tothill St., London, S.W.1.

AN ABSOLUTELY UNIQUE WORK ON DECORATION.

BY R. GOULBOURN LOVELL, A.R.I.B.A.

"HOME INTERIORS" is an absolutely unique work for all interested in any way in the application of colour to internal decoration.

Not only does it contain a series of 38 large facsimile water-colour drawings, providing, in complete detail, suggested decorative schemes for all sorts of houses, with full half-size detail plans, instructions, etc. It does much more than this.

Patented Colour Charts.

It provides, for the first time, the means of drawing up similar schemes, *with absolute accuracy.* For this purpose, it includes a series of patented mechanical colour charts, designed for the selection of colour schemes and harmonising colours. By the use of these charts the exact complementary of any given colour is at once disclosed, and at the same time not only those other colours that can be used to produce any desired scheme, but also the proportion of each that must be used to give the best possible effect. These charts teach, moreover, in a particularly valuable manner, the whole theory and practice of colour.

Large Water-Colour Drawings.

But, apart even from this unique invention, the many large facsimile water-colour drawings of specimen rooms would be extremely valuable as showing practical and economical schemes of decoration that will appeal as being decidedly novel and at the same time in the best of taste. Moreover, these plates are the first large-size plates which show how windows can be treated effectively and without obscuring the light.

Full Working Details.

Each plate, moreover, is accompanied by full half-size details, as well as complete explanatory notes, explaining its principles and objects, and pointing out an alternative scheme where, for any reason, it cannot be adopted in its entirety.

Two Opinions.

MR. J. LAWRIE, *Managing Director, William Whiteley, Ltd.*: "There is, in my opinion, nothing to equal the work. The colour-blending schemes, clearly described and illustrated, are quite unique; especially does it appeal to the ambitious young man aspiring to excel in his calling. I sincerely congratulate the author on a wonderful treatise on colour-blending."

BUILDING NEWS: "The small householder, at a rental of from £25 to £75 a year, has not had much done for him yet as regards the economical and effective decoration of his home, and 'Home Interiors' will prove a boon to decorators and designers of such dwellings and all concerned in their adornment. We cordially recommend the work to all."

A FREE BOOKLET.

The publishers have prepared an interesting booklet giving full particulars of this unique work, which will be sent free of charge, and without any obligation, upon receipt of this form:—

To the CAXTON PUBLISHING CO., LTD., 147, SURREY-STREET, LONDON, W.C.2.

Please send me, free of charge, and without any obligation on my part, detailed booklet on "Home Interiors."

NAME .....
(Send this form or a postcard.)

ADDRESS .....
.....
.....

A PRACTICAL WORK FOR ALL ENGAGED IN BUILDING.

BY G. A. T. MIDDLETON, A.R.I.B.A.

"MODERN BUILDINGS: Their Planning, Construction, and Equipment," aims to put before its readers all the essential parts of a modern building, to describe modern methods of planning, and of constructing consecutively, and as they occur in the actual work.

It explains all possible sorts of buildings, whether of the simplest or of the most complicated character, and supplies elucidative illustrations by the leading architects of the day. And it gives the principles that underlie building practice as it is undertaken in Great Britain and in the Colonies.

The aim of the publishers and author has been to make this work indispensable to all who are

Practically Concerned with the Building Trades.

The construction of buildings, as well as the subject of finishings and fittings, from the simplest to the most elaborate, is detailed in a manner equally useful to the artisan as to the architect. The tools used are described, as well as the methods of using them.

Attention is given to shoring, underpinning, and dealing with dangerous structures—a matter that is of increasing importance to builders whose businesses lie in our great cities.

Examples are included in this work of well-written specifications, such as are now in use for small and large works.

All information concerning the heating and ventilating of buildings, the introduction of electric light, and of gas lights of many new forms, on the combination of steel and concrete for large buildings, on the principles of drainage, on dilapidations, easements, etc., etc., is found here.

No point that concerns builders and building has been overlooked, and it is safe to say that this work—which is issued on terms that bring it within reach of everyone interested in the building trades—will save its cost when it has been in use a very short time.

Two Opinions.

MR. F. J. FORSTER, *Architect and Surveyor,* Great James-street, London, W.C.: "It is completely up-to-date. The plates are models of what architectural draughtsmanship should be. I think the detailed treatise on brickwork must be the best to be found anywhere."

MR. JAMES S. STEEL, *Builder and Contractor,* Gourock and Greenock: "As a practical builder and teacher of building construction, I am of opinion that the work is second to none, first in its object, and more particularly in its careful production."

A FREE BOOKLET.

To the CAXTON PUBLISHING CO., LTD., 147, SURREY-STREET, LONDON, W.C.2.

Please send me, free of charge, and without any obligation on my part, your illustrated booklet on "Modern Buildings."

NAME .....
(Send this form or a postcard.)

ADDRESS .....
.....
.....

REDPATH BROWN & Co., Ltd.
CONSTRUCTIONAL ENGINEERS

BEAUDEXOL

SUPER WATER PAINT IN 40 STANDARD SHADES.

Specify for the following reasons :—

BEAUDEXOL possesses the limit of obliterating and covering power and is therefore the cheapest.

BEAUDEXOL finishes with a surface of unequalled beauty and is therefore satisfying.

BEAUDEXOL dries hard and is therefore the most effective and economical decoration for the internal walls and ceilings of Houses, Churches, Schools, Hospitals and Halls.

Tint Book and Samples sent on application.

BROWN & CRITCHLEY, LTD.,
LENZIE, SCOTLAND.

Telegrams: WALPA, LENZIE. Telephone: 51 Kirkintilloch

For Drawings and Plans :—

WHATMAN

Genuine Hand Made

DRAWING PAPERS

UNRIVALLED FOR 150 YEARS.

Official price list can be obtained on request from any Artists Colourman, Drawing Office Stationer or Paper Merchant in the United Kingdom.

Double Elephant	*40" x 26¾"*	*133 lbs*	*480's*	*1/8d. per sheet nett.*
Imperial	*30½" x 22½"*	*72 lbs.*	*480's*	*11d. " " "*
Royal	*24" x 19"*	*44 lbs.*	*480's*	*6½d. " " "*

THESE ARE ONLY A FEW OF THE MOST POPULAR OF THE 75 VARIETIES OF SIZE, SUBSTANCE & SURFACE.

LOOK FOR THE WATERMARK IN EVERY SHEET, THUS:

J WHATMAN

In case of any difficulty in obtaining supplies or particulars: write the Sole Mill Representatives:—

H. REEVE ANGEL & Co 9, BRIDEWELL PLACE, E.C.4.
TELEPHONE: CITY 7414 (3 LINES) TELEGRAMS: PAPERMEN, LONDON.

Sylvadure

WOOD PRESERVER

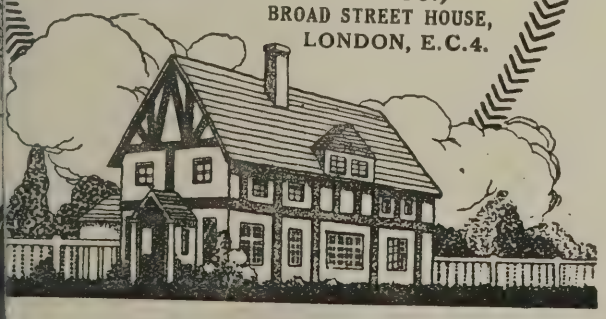
As specified by the
GLASGOW CORPORATION
For their Housing Scheme, 1920-21.

New Buildings—
"SYLVADURE" renders the new wood permanently proof against DRY ROT.

Old Buildings—
"SYLVADURE" exterminates existent DRY ROT and prevents its recurrence.

"SYLVADURE" is used by the Admiralty and the War Office and is easily the best time-resisting coating. It should be specified and scheduled by all Architects, Builders, etc.

Wm. MACLEAN SONS & Co.,
BROAD STREET HOUSE,
LONDON, E.C.4.



Electrical Notes

The Need for Publicity.

Mr. Llewelyn B. Atkinson, in the course of his presidential address to the Institution of Electrical Engineers, said that in no direction was association more needed than in the publicity of their industry towards the public. In the past it had been left to each manufacturer to push his wares individually to the consumer of his product. The engine and dynamo builder had pushed his goods with the consulting engineer and the company or municipal undertaking; the electric motor manufacturer had educated individual trades and factory owners to adopt electric drive; and the contractor had sought individual installations by personally canvassing and convincing customers of the usefulness of electric light. Educate the general public, enlighten the immense possible market, in fact, work to create a universal demand for electric current, and the call for goods would follow automatically. This was the function of the British Electrical Development Association, in the founding of which the Institution had lent most useful assistance.

These cases of associated effort, he contended, were examples of more scientific methods of conducting business which, whilst utilising individual effort in every direction, nevertheless by organised method used the resources of accumulated knowledge to take the place of wasteful unorganised effort. It must be admitted that the manufacturing side of the electrical industry had not prospered as it should have done. The localised condition as regards electricity supply brought about by legislative policy resulted in each generating station embodying the special ideas of a designing engineer, with little regard to standardised plant, and that led further to a close subdivision of tendering, thus discouraging the placing of contracts for the whole supply undertaking in the hands of a single firm, that being the opposite of the procedure on which the electrical industries of America and Germany had grown.

This reflected itself on the foreign market, where the conditions necessitated the taking of whole contracts, and, although several attempts in the past had been made to form groups of firms capable of supplying complete installations on a large scale to operate in foreign markets, they had not been found very successful, the internal coordination being insufficient. The result of this absence of foreign markets and the operation of a large number of comparatively small firms in free competition, led to a senseless competition in price for the home market, which kept the industry in a state of poverty where it could exist and no more. Only in one branch of the industry did sounder methods prevail. Whereas in the case of electrical machinery the visible nature of the product and the ease of conducting tests maintained some standard of quality to which the prices had necessarily to correspond, in the case of cables it was always possible to maintain some margin of profit at almost any level of price by a sacrifice of quality, which in the absence of definite life-tests was not obvious to the buyer until too late.

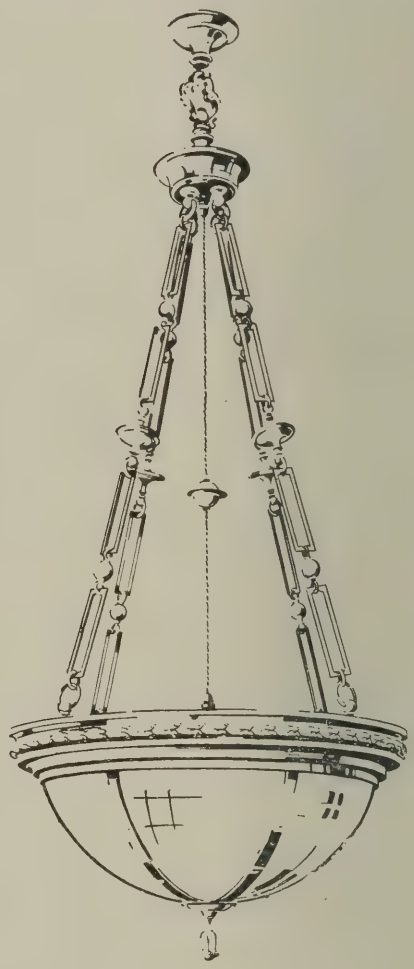
So clearly was the danger of such a process realised that by 1889 the British cable makers had been forced to a consideration of the situation, and to arrive at agreement as to standards of products and, for the most ordinary forms of small cables purchased by non-technical buyers, a standardisation of minimum prices which at least allowed these classes of cables to be produced on an economic basis. The necessity of close supervision and responsibility in the matter of laying and installing cables led to the system of single contracts and the building up of competent staffs which could be drawn on to form the skeleton units for cable-installing all over the world. Apart from social, political, and labour unrest the manufacturing situation looked more favourable. There had been a movement of integration, joining up under single control of sufficient firms to enable complete contracts to be undertaken in any part of the world.

The close of the era of constructing small localised generating plants would permit and necessitate standardisation, and the increasing size of units would limit the number of new-comers into the industry who, with experience lacking, and having the necessity of forcing their way into the market, were a constant depressing influence.

With the proviso that political and industrial stability was maintained, and that the supply industry was left free to adapt itself to the new code of area unification, the general outlook appeared to indicate a time of great activity for electrical manufacturers, with a more satisfactory financial result than in the past.

FITTINGS OF QUALITY

SIMPLEX ELECTRIC LIGHT FITTINGS



ENQUIRIES INVITED.

SIMPLEX CONDUITS LTD

GARRISON LANE · BIRMINGHAM
113-117 CHARING CROSS ROAD — LONDON
MANCHESTER · GLASGOW · BRISTOL
NEWCASTLE · LIVERPOOL · LEEDS
··· SWANSEA · AND · CARDIFF ···

A NEW GREEN MARBLE
—*Vert Rondino.*

From stock we can offer a good selection of coloured marbles in the usual thicknesses besides Sicilian, Bastard Statuary and Statuary.

Craftsmen: our works are equipped with the latest electrical machinery.

PERCY C. WEBB
LIMITED.
Marble & Granite Merchants & Workers.
LONDON . . . . .
Office:
6, ST. KATHARINE DOCKS, E.1.
Telephone: AVENUE 1385.
Works & Depot:
12, 14, 16, Englefield Rd., Dalston, N.1.
Telephone: DALSTON 920.
ITALY . . . . . .
Via Del Bastione, Massa.

AN ABSOLUTELY UNIQUE WORK ON DECORATION.

BY R. GOULBOURN LOVELL, A.R.I.B.A.

"HOME INTERIORS" is an absolutely unique work for all interested in any way in the application of colour to internal decoration.

Not only does it contain a series of 38 large facsimile water-colour drawings, providing, in complete detail, suggested decorative schemes for all sorts of houses, with full half-size detail plans, instructions, etc. It does much more than this.

Patented Colour Charts.

It provides, for the first time, the means of drawing up similar schemes, *with absolute accuracy.* For this purpose, it includes a series of patented mechanical colour charts, designed for the selection of colour schemes and harmonising colours. By the use of these charts the exact complementary of any given colour is at once disclosed, and at the same time not only those other colours that can be used to produce any desired scheme, but also the proportion of each that must be used to give the best possible effect. These charts teach, moreover, in a particularly valuable manner, the whole theory and practice of colour.

Large Water-Colour Drawings.

But, apart even from this unique invention, the many large facsimile water-colour drawings of specimen rooms would be extremely valuable as showing practical and economical schemes of decoration that will appeal as being decidedly novel and at the same time in the best of taste. Moreover, these plates are the first large-size plates which show how windows can be treated effectively and without obscuring the light.

Full Working Details.

Each plate, moreover, is accompanied by full half-size details, as well as complete explanatory notes, explaining its principles and objects, and pointing out an alternative scheme where, for any reason, it cannot be adopted in its entirety.

Two Opinions.

MR. J. LAWRIE, *Managing Director, William Whiteley, Ltd.*: "There is, in my opinion, nothing to equal the work. The colour-blending schemes, clearly described and illustrated, are quite unique; especially does it appeal to the ambitious young man aspiring to excel in his calling. I sincerely congratulate the author on a wonderful treatise on colour-blending."

BUILDING NEWS: "The small householder, at a rental of from £25 to £75 a year, has not had much done for him yet as regards the economical and effective decoration of his home, and 'Home Interiors' will prove a boon to decorators and designers of such dwellings and all concerned in their adornment. We cordially recommend the work to all."

A FREE BOOKLET.

The publishers have prepared an interesting booklet giving full particulars of this unique work, which will be sent free of charge, and without any obligation, upon receipt of this form:—

To the CAXTON PUBLISHING CO., LTD., 147, SURREY-STREET, LONDON, W.C.2.

Please send me, free of charge, and without any obligation on my part, detailed booklet on "Home Interiors."

NAME .....
(Send this form or a postcard.)

ADDRESS .....
.....
.....

A PRACTICAL WORK FOR ALL ENGAGED IN BUILDING.

BY G. A. T. MIDDLETON, A.R.I.B.A.

"MODERN BUILDINGS: Their Planning, Construction, and Equipment," aims to put before its readers all the essential parts of a modern building, to describe modern methods of planning, and of constructing consecutively, and as they occur in the actual work.

It explains all possible sorts of buildings, whether of the simplest or of the most complicated character, and supplies elucidative illustrations by the leading architects of the day. And it gives the principles that underlie building practice as it is undertaken in Great Britain and in the Colonies.

The aim of the publishers and author has been to make this work indispensable to all who are

Practically Concerned with the Building Trades.

The construction of buildings, as well as the subject of finishings and fittings, from the simplest to the most elaborate, is detailed in a manner equally useful to the artisan as to the architect. The tools used are described, as well as the methods of using them.

Attention is given to shoring, underpinning, and dealing with dangerous structures—a matter that is of increasing importance to builders whose businesses lie in our great cities.

Examples are included in this work of well-written specifications, such as are now in use for small and large works.

All information concerning the heating and ventilating of buildings, the introduction of electric light, and of gas lights of many new forms, on the combination of steel and concrete for large buildings, on the principles of drainage, on dilapidations, easements, etc., etc., is found here.

No point that concerns builders and building has been overlooked, and it is safe to say that this work—which is issued on terms that bring it within reach of everyone interested in the building trades—will save its cost when it has been in use a very short time.

Two Opinions.

MR. F. J. FORSTER, *Architect and Surveyor,* Great James-street, London, W.C.: "It is completely up-to-date. The plates are models of what architectural draughtsmanship should be. I think the detailed treatise on brickwork must be the best to be found anywhere."

MR. JAMES S. STEEL, *Builder and Contractor,* Gourock and Greenock: "As a practical builder and teacher of building construction, I am of opinion that the work is second to none, first in its object, and more particularly in its careful production."

A FREE BOOKLET.

To the CAXTON PUBLISHING CO., LTD., 147, SURREY-STREET, LONDON, W.C.2.

Please send me, free of charge, and without any obligation on my part, your illustrated booklet on "Modern Buildings."

NAME .....
(Send this form or a postcard.)

ADDRESS .....
.....
.....

REDPATH BROWN & Co., Ltd.
CONSTRUCTIONAL ENGINEERS

Current Prices of Materials

LONDON PRICES.—The following information is intended to serve as a guide only, and should be confirmed by Trade enquiry. The Labour Rates are those current at the time of issue and are the Union Rates. The prices are for fine quality material, and are intended to cover delivery to contractors' yard or site of works. The measured prices are based upon the foregoing.

LABOUR RATES AND MATERIAL PRICES. | MEASURED WORK PRICES

EXCAVATOR AND CONCRETOR.

Excavator, 2s. 1d. per hour.
Labourer, 2s. 1d. per hour.
Navvy, 2s. 1d. per hour.
Timberman, 2s. 2d. per hour.
Scaffolder, 2s. 2d. per hour.
Watchman, 7s. per shift.

Broken brick or stone, 2 in., 20s. per yd.
hames ballast, 22s. per yd.
it gravel, 27s. 6d. per yd.
it sand, 29s. per yd.
Vashed sand, 31s. 6d. per yd.
creened ballast or gravel, add 10 per cent. per yd.
linker, breeze, etc., prices according to locality.
ortland cement, 97s. per ton.
o. in small lots, ex London stock, 110s. per ton.
ias lime, 67s. per ton.
acks charged extra at 2s. 6d. each and credited when returned at 2s.
ransport hire per day:
Cart and horse, 38s.
3-ton motor lorry, £7 10s.
Steam lorry, 5-ton, £7 15s.
Trailer, 32s. 6d.
Steam roller, £6 10s.
Water cart, 38s.

Excavating and throwing out in ordinary earth, not exceeding 6 ft. deep, basis price, 4s. 9d. per yd. cube.
Exceeding 6 ft., but under 12 ft., add 25 per cent.
In stiff clay, add 50 per cent.
In underpinning, add 120 per cent.
In rock, including blasting, add 225 per cent.
If basketed out, add 80 per cent. to 150 per cent.
Headings, including timbering, add 400 per cent.
Return, fill, and ram, ordinary earth, 4s. 9d. per yd.
Spread and level, including wheeling, 4s. 10d. per yd.
Planking, 8d. per ft. sup.
Do. over 10 ft. deep, add for each 5 ft. depth 40 per cent.
Hardcore, 2 in. ring, filled and rammed 4 in. thick, 6s. 4d. per yd. sup.
Do. 6 in. thick, 8s. 6d. per yd. sup.
Puddling, 45s. per yd. cube.
Cement concrete, 4-2-1, 71s. per yd. cube.
Do. 6-2-1, 61s. per yd. cube.
Do. in upper floors, add 15 per cent.
Do. in ferro concrete work, add 20 per cent.
Do. in underpinning, add 60 per cent.
Lias lime concrete, 58s. per yd. cube.
Breeze Concrete, 55s. per yd. cube.
Do. in lintols, etc., 5s. 9d. per ft. cube.

RAINER.

bourer, 2s. 1d. per hour.
mberman, 2s. 2d. per hour.
icklayer, 2s. 4d. per hour.
imber, 2s. 4½d. per hour.
atchman, 7s. per shift.

---

oneware pipes, tested uality, 4-in. 3s., 6-in. s. 9d., 9-in. 7s. 11d. per d.
t iron pipes, coated, ft. lengths, 4-in. 5s. 3d., in. 6s. 6d., 9-in. 8s. 6d er yd.
tland cement and sand, ee Excavator above.
d for caulking, 43s. er cwt.
ket, 1s. 10d. per lb.

Stoneware drains, jointed in cement, tested pipes, 4-in. 5s. 6d., 6-in. 8s., 9-in. 9s. 9d., per ft.
Cast-iron drains, jointed in lead, 4-in. 14s. 9d., 6-in. 23s. 6d., 9-in. 33s. per ft.
Note.—These prices include digging and filling for normal depths, and are average prices.

CKLAYER.

klayer, 2s. 4d. per our.
ourer, 2s. 1d. per hour.
folder, 2s. 2d. per hour.

---

don stocks, 108s. per M.
tons, 92s. per M.
ordshire blue, 246s. r M.
bricks, 2½ in., 267s. per
ed salt, white, and ry stretchers, £30 10s. r M.
headers, £30 per M.
urs, extra, 110s. per M.
nds, less, £1 per M.
ent and Sand, see Exvator above.
, grey stone, 75s. per
d lime mortar, 35s. yd.
course, in rolls of n. 6s., 9-in. 9s. 6d., n. 12s. 6d., 18-in. 6d. per roll.

Brickwork in stone lime mortar, Flettons, or equal, £54 per rod.
Do. in cement do. £59 10s. per rod.
Do. in stocks, add 25 per cent. per rod.
Do. in blues, add 320 per cent. per rod.
Do. circular on plan, add 12½ per cent. per rod.
Facings, fair 3d. per ft. sup. extra.
Do. picked Flettons, 6d. per ft. sup. extra.
Do. picked stocks, 6d. per ft. sup. extra.
Do. salt, white or ivory glazed, 7s. per ft. sup. extra
Tuck pointing, 1s. per ft. sup. extra.
Weather pointing, 6d. per ft. sup. extra.
Granolithic and Cement paving, 1-in., 5s. 4d. per yd. sup.
Do. 1½-in., 6s. 6d. per yd. sup.
Do. 2-in., 7s. 4d. per yd. sup.
Fixing only damp course, ex rolls, 3d. per ft. sup.
Asphalte, damp course, ½ in., 1s. 6d. per ft. sup.
Do. vertical, 1s. 10d. per ft. sup.
Slate damp course, 2s. per ft. sup.
Asphalte paving in two thicknesses, ¾-in., 14s. 6d. per yd.
Do. skirting, 6-in., 1s. 10d. per ft.

ON (INCLUDING SLATE).

n, 2s. 4d. per hour.
fixer, 2s. 5d. per hour.
rer, 2s. 1d. per hour.
lder, 2s. 2d. per hour

---

nd stone:
tbed, 5s. 2d. per ft. be.
bed, 5s. 3d. per ft be.
stone, 3s. 9d. per ft. be.
eld red, 8s.
l trade extras for blocks.)

Hoisting and setting stone, 2s. 10d. per ft. cube.
Do. for every 10 ft. above 30 ft., add 15 per cent.
Plain face Portland basis, 3s. per ft. sup.
Do. circular, 4s. 6d. per ft. sup.
Sunk face, 4s. 2d. per ft. sup.
Do. circular, 5s. per ft. sup.
Joints, arch, 2s. 8d. per ft. sup.
Do. sunk, 2s. 8d. per ft. sup.
Do. do. circular, 4s. 6d. per ft. sup.
Circular-circular work, 20s. per ft. sup
Plain moulding, straight, per inch of girth, 11d. per ft. run.
Do. circular, do. 1s. 3d. per ft. run.
Half sawing, 1s. 4d. per ft. sup.
Add to the foregoing prices if in York stone 35 per cent

LABOUR RATES AND MATERIAL PRICES. | MEASURED WORK PRICES.

MASON—(continued)

York paving, av. 2½ in. 3s. per ft. sup.
York Templates Sawn, per ft. cube, 17s. 6d.
Slate shelves, rubbed, 1 in., 3s. per ft. sup.
Cement and sand, see "Excavator," etc., above.

Do. Mansfield, 12½ per cent.
Deduct for Bath, 33⅓ per cent.
Do. for Chilmark, 5 per cent.
Setting 1-in. slate shelving in cement, 10d. per ft. sup.
Rubbed round nosing to do., 9d. per ft. lin.
York Steps, rubbed T. & R., 41s. ft. cub. fixed.

SLATING AND TILING.

Slater, 2s. 3d. per hour.
Tiler, 2s. 3d. per hour.
Scaffolder, 2s. 2d. per hour.
Labourer, 2s. 1d. per hour.
N.B.—Tiling is often "Piecework."

Slates, 1st quality, per M.
Portmadoc, Ladies £20 10s., Countess £40, Duchess £55.
Clips, lead, 9d. per lb.
Clips, copper, 2s. 4d. per lb.
Nails, compo, 53s. per cwt.
Nails, copper, 2s. 4d. per lb.
Cement and sand, see "Excavator," etc., above.
Handmade tiles, 158s. per M.
Machine-made tiles, 142s. per M.
Westmoreland slates, large 260s. per ton, Peggies 200s. per ton.

Slating, 3-in. compo nails, Portmadoc or equal: Ladies 102s., Countess 118s., Duchess 130s., per square.
Westmoreland, in diminishing courses, 165s. per square.
Delabole do., 135s. per square.
Add, if vertical, 10s. per square approx.
Add, if with copper nails, 7½ per cent. per square approx.
Double course at eaves, 1s. 3d. per ft. approx.
Tiling, 4-in. gauge, 5th course nailed, in hand-made tiles, average 120s. per square.
Do. machine-made do. 105s. per square.
Fixing lead soakers, 1s. per dozen

CARPENTER AND JOINER.

Carpenter, 2s. 4d. per hour.
Joiner, 2s. 4d. per hour.
Labourer, 2s. 1d. per hour.

Timber, average prices, ex-Dock and d/d works or site.

Scandinavian, etc. (equal to 2nds):
7 x 3, £53 per std., to 11 x 4, £72 per std.
Memel or Equal.
Slightly less than foregoing.
Flooring P.E., 1in., 55s. per sq.
Do. T. and G., 1in., 56s. per sq.
Planed Boards, 1in. x 11in., £72 per std.
Wainscot, oak, 3s. 9d. per ft. sup. of 1 in.
Mahogany, 4s. per ft. sup. of 1 in.
Do. Cuba, 4s. 6d. per ft. sup. of 1 in.
Teak, 4s. 3d. per ft. sup. of 1 in.

Fir, fixed in wall plates, lintels, sleepers, etc., 12s. per ft. cube.
Do. framed in floors, roofs, etc., 12s. 9d. per ft. cube.
Do. framed in trusses, etc., including ironwork, 13s. 6d. per ft. cube.
Pitch pine, add 33 1-3 per cent.
Fixing only boarding in floors, roofs, etc., 20s. per sq.
Sarking felt laid, 1 ply 1s. 10d., 3 ply 2s. 6d. per yd.
Centering for concrete, etc., including horsing and striking, 94s. per sq.
Slate battening, 33s. per sq.
1-in. deal gutter board on firring, 110s. per sq.
1¾-in. molded casements in 4 sqs., glazing beads and hung, 3s. 10d. per ft. sup.
2-in. do. do. 4s. 3d. per ft. sup.
Deal cased frames, oak sills, 2-in. D.H. sashes, brass pullies, etc., 5s. 1d. per ft. sup.
Doors, 4-pan. sq. b.s., 2-in., 4s. 1d. per ft. sup.
Do. do. do. 1½-in., 3s. 4d. per ft. sup.
Do. do. moulded b.s., 2-in., 4s. 3d. per ft. sup.
Do. do. do. 1½-in., 3s. 10d. per ft. sup.
If in oak multiply 6 times.
If in mahogany multiply 6 times.
If in teak multiply 7½ times.
Wood block flooring, standard blocks, laid in Mastic, Herringbone—deal, ¾-in. 17s., 1-in. 19s., 1¼-in. 22s. per yd. sup., average.
Staircase work, deal:
1-in. riser, 1¼-in. tread, fixed, 5s. 7d. per ft. sup.
2-in. deal strings, fixed, 5s. 4d. per ft. sup.

PLUMBER AND RAIN-WATER GOODS.

Plumber, 2s. 4½d. per hour.
Mate or labourer, 2s. 1d. per hour.

Lead, milled sheet, 42s. 6d. per cwt.
Do. drawn pipes, 43s. per cwt.
Do. soil pipe, 45s. 6d. per cwt.
Do. scrap, 22s. per cwt.
Copper, sheet, 2s. 3d. per lb.
Solder, plumbers, 1s. 5d. per lb.
Do. fine, 2s. per lb.
Cast-iron pipes, etc.:
L.C.C. soil, 3 in. 10s., 4 in. 12s. per yd.
R.W.P., 2½ in. 6s. 5d., 3 in. 7s. 9d., 4 in. 10s. 3d. per yd.
Gutter, 4-in. H.R., 5s., 4-in. O.G. 5s. 7d. per yd

Milled lead and labour in gutters, flashings, etc., 78s.
Lead pipe, fixed, including running joints, bends, and tacks, ½-in. 2s. 2d. per ft.
Do. ¾-in., 2s. 10d. per ft.
Do. 1-in., 3s. 3d. per ft.
Do. 1¼-in., 4s. per ft.
Lead waste or soil, fixed as above, complete, 2½-in., 7s. 9d. per ft.
Do. 3-in., 8s. 9d. per ft.
Do. 4-in., 3s. 10d. per ft.
Cast-iron R.W. pipe, at 24 lb. per length, jointed in red lead, 2½-in., 3s. per ft.
Do. 3-in., 3s. 6d. per ft.
Do. 4-in., 3s. 10d. per ft
Cast-iron H.R. gutter, fixed, with all clips, etc., 4-in., 2s. 7d. per ft.
Do. O.G., 4-in., 3s. 5d. per ft.
Cast-iron soil pipe, fixed with caulked joints and all ears, etc., 4-in., 6s. per ft.
Do. 3-in., 5s. per ft.
Fixing only:
W.C. pans and all joints, P. or S., and including water waste preventers, 65s. each.
Baths only, with all joints, 55s.
Lavatory basins only, with all joints on brackets, 48s. each.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
GLAZIER.	
Glazier, 2s. 3d. per hour.	
Glass: 4th in crates: Clear, 21 oz. 9d., 26 oz. 10d.	Glazing, in putty, clear sheet, 21 oz., 1s. 4d., 26 oz. 1s. 6d.
	Glazing in beads, 21 oz. 1s. 3d., 26 oz. 1s. 5d. per ft.
Cathedral, white, 7d. per ft.	Patent glazing in rough plate, normal span, 2s. 4d. to 2s. 9d. per ft.
Pold, Plate, ¼ in., 5s. per ft. and up.	Lead light, plain, med. sqs. 21 oz., usual domestic sizes, fixed, 5s. and up, per ft. sup.
Rough plate, 3-16 in., 7½d., ¼ in., 8½d. per ft.	
Linseed oil putty, 32s. 6d. per cwt.	
PLASTERER.	
Plasterer, 2s. 4d. per hour.	
Labourer, 2s. 1d. per hour.	
Chalk lime, 73s. per ton.	Lathing, with sawn laths, 2s. 8d. per yd.
Hair, 36s. per cwt.	Metal lathing, 3s. per yd.
Sand and cement, see "Excavator," etc., above.	Floating in Portland, 1 to 3, for tiling or wood-block, ¾-in., 3s. 10d. per yd.
Lime putty, 5s. 6d. per cwt.	Do. vertical, 4s. per yd.
Hair mortar, 42s. 6d. per yd.	Render, on brickwork, 1 to 3, 4s. per yd.
Fine stuff, 45s. 9d. per yd.	Render in Portland and set in fine stuff, 4s. 10d. per yd.
Sawn laths, 7s. per bdl.	Render, float, and set, trowelled, 4s. 9d. per yd.
Keene's cement, 88s. per ton.	Render and set in Sirapite, 4s. 4d. per yd.
Sirapite, 72s. per ton.	Do. in Thistle plaster, 4s. per yd.
Do. Fine, 72s. 6d. per ton.	Extra, if on both not including, lathing, any of foregoing, 1s. per yd.
Plaster, 81s. per ton.	Extra, if on ceilings, 8d. per yd.
Do. fine, 82s. per ton.	Angles, rounded Keenes on Keenes, 10d. per ft. lin.
Thistle plaster, 71s. per ton.	Plain cornices, in plaster, per inch girth, including dubbing out, etc., 4½d. per ft. lin.
Lath nails, 8d. per lb.	White glazed tiling set in Portland and jointed in Parian, 42s. per yd.
DECORATOR.	
Painter, 2s. 3d. per hour.	
Labourer, 2s. 1d. per hour.	
French polisher, 2s. 4d. per hour.	
Paperhanger, 2s. 4d. per hour.	
Genuine white lead, 110s. per cwt.	Lime whiting 2 coats 8d. per yd. sup.
Linseed oil raw, 8s. per gall.	Wash. stop, and 2 coats whiten, 1s. per yd. sup.
Do. boiled 8s. 6d. per gall.	Do. and 2 coats distemper with proprietary distemper, 1s. 6d. per yd. sup.
Turpentine, 11s. 8d. per gall.	Knot, stop, and prime, 1s. per yd. sup.
Liquid driers, 16s. per gall.	Plain painting, including mouldings, and on plaster or joinery, 1st coat, 1s. 5d. per yd. sup.
Knotting, 35s. per gall.	Do. subsequent coats, 1s. 4d. per yd. sup.
Distemper, washable in ordinary colours, 55s. per cwt. and up.	Do. enamel coat, 2s. 2d. per yd. sup.
Petrifying liquid, 7s. per gall.	Brush grain and 2 coats varnish, 6s. per yd. sup.
Double size, 7s. per firkin.	Figured do. do. 9s. 6d. per yd. sup.
Pumice stone, 10d. per lb.	French polishing, 2s. per ft. sup.
Hard stopping, 10d. per lb.	Stripping old paper and preparing, 2s. 1d. per piece.
Varnish, hard oak, 17s. per gall. and up.	Hanging paper, ordinary, 2s. 3d. per piece.
Do. Outside do., 17s. 6d. per gall. and up.	Do. fine, 3s. and upwards per piece.
	Varnishing paper, 1 coat, 17s. per piece.
	Canvas, strained and fixed, 3s. 8d. per yd. sup.
	Varnishing, hard oak, 1st coat, 1s. 10d. per yd. sup.
	Do. each subsequent coat, 1s. 8d. per yd. sup.

LABOUR RATES AND MATERIAL PRICES.	MEASURED WORK PRICES.
DECORATOR.—(continued)	
Varnish. Copal, 20s. per gall. and up.	
Do. Flat, 20s. per gall.	
Do. Paper, 20s. per gall.	
French polish, 35s. per gall.	
Turps substitute, 6s. per gall.	
STEELWORK, SMITHWORK, etc.	
Smith, no fixed rate.	Mild steel in trusses, etc., erected, £57 10s. per
Mate, no fixed rate.	Do. in small sections as reinforcement, £45 per
Erector, 2s. 2d. per hour.	Do. in compounds, £51 per ton.
Fitter, 2s. 2d. per hour.	Do. in bar or rod reinforcement, £47 per ton
Labourer, 2s. 1d. per hour.	Wrot. iron in chimney bars, etc., including buil in, 65s. per cwt.
Mild steel in British standard sections, £41 per ton.	Do. in light railings and balusters, 82s. per
Sheet steel: Flat sheets, black £50 per ton.	Fixing only corrugated sheeting, including wa and driving screws, 2s. 5d. per yd.
Do. Galvd., £55 per ton.	
Corrugated sheets, black.*	
Do. Galvd., £55 per ton.	
Driving screws, galvd., 7s. per grs.	
Washers, galvd., 3s. 6d. per grs.	
Bolts and nuts, 76s. per cwt. and up.	
* Manufacturers are at present producing practically only galvanised corrugated sheets.	
SUNDRIES.	
Fibre or wood pulp boardings, 5¾d. per ft. sup.	Fibre boardings, fixed on, but not including or grounds, 10d. per ft. sup.
Thistle Plaster Board 2s. 5d. per yd. sup.	Thistle Board, fixed as last, 5s. 9d. per yd.
Asbestos sheeting, 5-32 in., grey flat, 3s. 9d. per yd. sup.	Asbestos sheeting, fixed as last, flat, 6s. 3d. p sup.
Do. corrugated, 7s. per yd. sup.	Do. do. corrugated, 10s. 6d. per yd. sup.
Asbestos Composition Flooring:	Laid in two coats, average ¾-in. thick, in colours, 18s. 6d. per yd. sup.
Metal casements for wood frames, domestic sizes, 4s. per ft. sup.	Hanging only metal casements in, but not inclu wood frames, 6s. 3d. each.
Do. in metal frames, 5s. per ft. sup.	Building in metal casement frames, 8d. per ft
Asbestos cement slates or tiles. 5-32 in. punched, per M., grey £27, red £29.	Asbestos slating or tiling on, but not incl battens, or boards, plain "diamond" per s grey, 70s., red 72s.
Waterproofing compounds for cement:	Add about 75 per cent. to 100 per cent. to th of cement used (about 3s. to 4s. per bus cement).

These lists are strictly copyright.

News Items

Doncaster and the Building Guilds.

Twenty-four "B" houses are to be built by the Building Guilds.

Kilsyth Housing Scheme.

The first sod has been cut for the Kilsyth scheme, which embraces fifty houses.

Wadebridge Housing.

Wadebridge U.D.C. have received the sanction of the Ministry of Health to a loan of £8,000 for housing.

Housing at Greasborough.

Greasborough U.D.C. have received the sanction of the Ministry of Health to the borrowing of £23,000 for housing.

Dundee and Stone Houses.

The scheme of the Corporation includes 100 houses at Stirling Park and 180 at Taybank. Application is being made to the Ministry of Health for permission to erect houses in stone.

R.M.A. War Memorial.

It is proposed to erect a memorial at the Royal Military Academy, Woolwich, in honour of those officers who were educated at "The Shop" and who fell in the Great War. The proposed memorial will take the form of a window at the west end of the Academy chapel. The design for this has been entrusted to Mr. Christopher Whall. The total cost will be about £2,000.

War Monument at Hayfield.

A public meeting at Hayfield has accepted a design submitted by Messrs. Samuel Hadfield and Son, of Sheffield, for a monument, 16 ft. high, of white Sicilian marble, to be erected at Bridge End at an estimated cost of £1,052.

Leominster Church Restoration Scheme.

Messrs. Nicholson and Clarke, of Hereford, architects, in a report on the ancient Priory Church at Leominster, state that a considerable amount of restoration work is necessary. An appeal is being made for funds to carry out the work.

Belgian Cement Production.

By the end of the year the production of cement in Belgium will equal that of pre-war days. In the course of 1921 several manufacturers are adding to their ovens, which will result in an increase of production equal to at least a quarter the present quantity produced.

Walthamstow Housing Scheme.

Walthamstow U.D.C. have 551 houses in course of erection, and ten are ready for occupation. The total area of land included in the present scheme is 215 acres, which is divided into six sections, and laid out to include recreation and playing-grounds for children and many other features. It is anticipated the scheme be extended to enable 3,000 houses t erected.

"Bayonet Trench" Memorial.

A war memorial has been inaugu at Verdun to preserve the fa "Bayonet Trench," near Fort Douaum The crypt of the memorial is the "tre itself, with the bayonets and rifle-mu still protruding from the soil. Over it gift of the late Mr. George S. Rand, was killed in an aeroplane accident years ago, has been erected a con structure raised on pillars and havi one end a massive block of cement w cross moulded on its face.

Canadian War Memorials.

The Dominion Government decided to hold a competition fo design of the Canadian memorials th to be erected on the battlefields of Fr The assessors will be Mr. Frank Da F.R.I.B.A., representing the Royal tectural Institute of Canada; Mr. Pa Crét, who is nominated by the S Centrale des Architectes Français t present the architects of France; Professor C. H. Reilly, F.R.I.B.A Liverpool, who has been appoint represent the Royal Institute of B Architects. The assessors will ass in Canada in the spring to arrang details of the competition.

N ABSOLUTELY UNIQUE WORK ON DECORATION.

BY R. GOULBOURN LOVELL, A.R.I.B.A.

"HOME INTERIORS" is an absolutely iique work for all interested in any way the application of colour to internal coration.

Not only does it contain a series of 38 rge facsimile water-colour drawings, oviding, in complete detail, suggested corative schemes for all sorts of houses, th full half-size detail plans, instructions, . It does much more than this.

Patented Colour Charts.

It provides, for the first time, the ans of drawing up similar schemes, *th absolute accuracy.* For this purpose, includes a series of patented mechanical our charts, designed for the selection colour schemes and harmonising ours. By the use of these charts the ict complementary of any given colour at once disclosed, and at the same time t only those other colours that can be d to produce any desired scheme, but o the proportion of each that must be d to give the best possible effect. ese charts teach, moreover, in a parlarly valuable manner, the whole ory and practice of colour.

Large Water-Colour Drawings.

But, apart even from this unique inven-, the many large facsimile water-our drawings of specimen rooms would extremely valuable as showing prac-l and economical schemes of decora- that will appeal as being decidedly el and at the same time in the best of e. Moreover, these plates are the t large-size plates which show how dows can be treated effectively and out obscuring the light.

Full Working Details.

ach plate, moreover, is accompanied full half-size details, as well as come explanatory notes, explaining its iciples and objects, and pointing an alternative scheme where, for any on, it cannot be adopted in its rety.

Two Opinions.

J. LAWRIE, *Managing Director, William hiteley, Ltd.*: "There is, in my opinion, thing to equal the work. The colour-ending schemes, clearly described and ustrated, are quite unique; especially es it appeal to the ambitious young man piring to excel in his calling. I sincerely ngratulate the author on a wonderful atise on colour-blending."

DING NEWS: "The small householder, a rental of from £25 to £75 a year, has t had much done for him yet as regards e economical and effective decoration of s home, and 'Home Interiors' will prove boon to decorators and designers of such ellings and all concerned in their adorn-nt. We cordially recommend the work all."

A FREE BOOKLET.

ie publishers have prepared an inte-ng booklet giving full particulars of unique work, which will be sent free harge, and without any obligation, receipt of this form:—

the CAXTON PUBLISHING CO., LTD., 147, SURREY-STREET, LONDON, W.C.2.

ease send me, free of charge, and out any obligation on my part, led booklet on "Home Interiors."

IE .....

(Send this form or a postcard.)

DRESS .....

.....

.....

A PRACTICAL WORK FOR ALL ENGAGED IN BUILDING.

BY G. A. T. MIDDLETON, A.R.I.B.A.

"MODERN BUILDINGS: Their Planning, Construction, and Equipment," aims to put before its readers all the essential parts of a modern building, to describe modern methods of planning, and of constructing consecutively, and as they occur in the actual work.

It explains all possible sorts of buildings, whether of the simplest or of the most complicated character, and supplies elucidative illustrations by the leading architects of the day. And it gives the principles that underlie building practice as it is undertaken in Great Britain and in the Colonies.

The aim of the publishers and author has been to make this work indispensable to all who are

Practically Concerned with the Building Trades.

The construction of buildings, as well as the subject of finishings and fittings, from the simplest to the most elaborate, is detailed in a manner equally useful to the artisan as to the architect. The tools used are described, as well as the methods of using them.

Attention is given to shoring, underpinning, and dealing with dangerous structures—a matter that is of increasing importance to builders whose businesses lie in our great cities.

Examples are included in this work of well-written specifications, such as are now in use for small and large works.

All information concerning the heating and ventilating of buildings, the introduction of electric light, and of gas lights of many new forms, on the combination of steel and concrete for large buildings, on the principles of drainage, on dilapidations, easements, etc., etc., is found here.

No point that concerns builders and building has been overlooked, and it is safe to say that this work—which is issued on terms that bring it within reach of everyone interested in the building trades—will save its cost when it has been in use a very short time.

Two Opinions.

MR. F. J. FORSTER, *Architect and Surveyor*, Great James-street, London, W.C.: "It is completely up-to-date. The plates are models of what architectural draughtsmanship should be. I think the detailed treatise on brickwork must be the best to be found anywhere."

MR. JAMES S. STEEL, *Builder and Contractor*, Gourock and Greenock: "As a practical builder and teacher of building construction, I am of opinion that the work is second to none, first in its object, and more particularly in its careful production."

A FREE BOOKLET.

To the CAXTON PUBLISHING CO., LTD., 147, SURREY-STREET, LONDON, W.C.2.

Please send me, free of charge, and without any obligation on my part, your illustrated booklet on "Modern Buildings."

NAME .....

(Send this form or a postcard.)

ADDRESS .....

.....

.....

ROSSO ANTICO

—THE RED MARBLE OF THE ANCIENT GREEKS & ROMANS.

This is the marble which was largely used in classical times. We have secured the entire remaining stock of blocks from the quarries, which were re-discovered some time ago but have now been abandoned. A deep rich red, veined with white and purple, sometimes gold.

The house for Marble: large stock always of white and coloured marbles.

"Marbles for Decoration": write for our new descriptive leaflet.

Craftsmen, as well: with well-equipped works and a capable staff.

PERCY C. WEBB
LIMITED.

Marble & Granite Merchants & Workers.

LONDON . . . . . .

Office:

6, ST. KATHARINE DOCKS, E.1.

Telephone: AVENUE 1385.

Works & Depot:

12, 14, 16, Englefield Rd., Dalston, N.1.

Telephone: DALSTON 920.

ITALY . . . . . .

Via Del Bastione, Massa.

The Journal "Wanted" Advertisement Columns.

Appointments Wanted.

Four lines or under, 2s. 6d.; each additional line, 6d.

E. PERCY KENDALL, 6, Frithville Gardens, W.12 (Tel. Hammersmith 2693).—Architectural assistance rendered at own offices; surveys, working drawings, tracings, etc.—Box 655.

EXPERT ARCHITECTURAL ASSISTANCE, at home or in architect's office; high-class designs, details, and working drawings; accurate quantities; effective perspectives; punctuality; moderate charges.—Temple, c/o 24, Harrington Square, London, N.W.1; and c/o 60, West Street, St. Philips, Bristol. 694

EX-OFFICER desires **POSITION** as **LONDON AGENT** for a PROVINCIAL firm; has had many years' experience of sales, management, publicity, and advertising in various businesses, controlling inside and outside staffs; well educated, good address, and a capable interviewer; general engineering knowledge, also design and wood-working; capable of organising and handling any commercial proposition for London and the south; excellent credentials; good salary and interest in development required.—Box 451.

HIGH-CLASS ARCHITECTURAL ASSISTANCE rendered at own offices; domestic, housing work, and factories a speciality.—Apply, Architect, "Lynton," Woodside Avenue, Esher, Surrey.

HIGH-CLASS FIBROUS PLASTER DECORATION, designs and models prepared and excellent facilities for the immediate execution of orders.—Box 710.

QUANTITY SURVEYORS' WRITER AND PRINTER solicits work by his electro-litho process. Cheaper and quicker than any other styles. Sketches traced and inserted. Reduced price for repetition work. Housing schemes.—Cox, 148, Station Road, Pendlebury, Manchester.

SPECIALIST IN FIBROUS PLASTER, artificial stone, reinforced concrete, and patent flooring, pre-war manager for large contractors, requires similar position with or without financial interest; would purchase going concern, or rent suitable premises. Write in confidence.—Box 643.

THE ASSOCIATION OF BUILDERS' FOREMEN AND CLERKS, 56, Old Bailey, E.C.—Experienced Foremen and Clerks of Works can be obtained by applying to the Secretary, Mr. J. W. Sawyer, 6, Binfield Road, Clapham S.W.4. Competent foremen and clerks of works are invited to join this Association.

Appointments Vacant.

Four lines or under, 4s.; each additional line 1s.

DRAUGHTSMAN required for Northern Office; must have good experience first-class work; thorough knowledge design and construction; state age, experience, and salary required.—Box 707.

JUNIOR DRAUGHTSMAN required at once; knowledge of surveying essential.—State qualifications and salary required, with copy references, to the County Land Agent, Sessions House, Boston, Lincs. 703

UNIVERSITY COLLEGE, JOHANNESBURG.
(UNIVERSITY OF SOUTH AFRICA.)

The Council invites applications for the following appointment:—

Professor of Architecture.

Salary £860 per annum, rising £30 annually to maximum of £1,100. Appointment probationary for first two years. Allowance for travelling expenses £60, half salary from sailing date until arrival. Duties commence March 1, or as soon after as possible May have to take part in evening classes. Medical certificate required before appointment. Applications and testimonials to be sent in triplicate to undersigned by January 6. Age to be stated. The conditions on which private practice will be allowed may be obtained on application. Further particulars may be obtained from Chalmers, Guthrie, and Co., Ltd., 9, Idol Lane, London, E.C.3. 709

Educational Announcements.

Four lines or under, 4s.; each additional line 1s.

EXAMINATIONS.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

Correspondence Preparation by
Mr. W. HERBERT HOBDAY, F.R.I.B.A.

These courses are conducted on the soundest educational lines, and every possible assistance is given to candidates.

For full particulars of Courses and Fees, apply—
196, Upper Clapton Road, London, E.5
(late of 5, Bedford Row).

Tenders.

Six lines or under, 8s.; each additional line, 1s.

COALVILLE URBAN DISTRICT COUNCIL.
(LEICESTERSHIRE.)

TENDERS FOR HOUSES.

The Council INVITE TENDERS for the erection and completion of 232 HOUSES of Six Types, within the District, as follows:—
84 HOUSES, on a Site off Bridge Road, Coalville;
98 HOUSES, on a Site off Main St., Ellistown;
64 HOUSES, on a Site off Hall's Lane, Whitwick;
together with the Drainage Footpaths and Fencing in connection with the Houses on each Site.

The Drawings, Details, and Form of Contract, may be inspected, and Bills of Quantities and Specifications, and Forms of Tender may be obtained from the joint Architects:—Messrs. McCarthy, Collings and Co., Central Chambers, Coalville; or Messrs. Goddard and Wain, Station Chambers, Coalville; on the payment of £2 2s., which will be returned on the receipt of bona-fide Tenders, and the return of the Bills of Quantities.

The Council will consider Tenders for One or more pairs of Houses, or the whole, on any one site, to suit the convenience of Contractors.

Sealed Tenders, on the form prescribed, must be delivered to me NOT LATER than 12 NOON on MONDAY, JANUARY 10, 1921, endorsed "Tender for Houses."

The lowest or any Tender will not necessarily be accepted, and the provisional acceptance of any Tender will be subject to the approval of the Ministry of Health.

Dated this 22nd day of December, 1920.

J. FISHER JESSON,
Clerk to the Council.

Council Offices,
Coalville, Nr. Leicester. 708

Competitions.

Six lines or under, 8s.; each additional line 1s.

ARCHITECTURAL COMPETITION.
PROPOSED NEW COUNCIL CHAMBER,
CALCUTTA.

Architects are invited to submit designs in competition for the proposed Council Chamber to be built in Calcutta for the Legislative Council of Bengal.

Premiums of £500, £250, and £100 will be awarded to the authors of the designs placed first, second, and third respectively by the Assessor, Mr. Henry A. Crouch, F.R.I.B.A., Consulting Architect to the Government of Bengal. It is the intention of the Government of Bengal to employ the author of the design placed first as Architect for the work in accordance with the schedule of charges sanctioned by the Royal Institute of British Architects. Conditions of this competition can be obtained on application to the Secretary, Public Works Department, India Office, Whitehall, London, on payment of a deposit of 2 guineas, or to the Secretary to the Government of Bengal, Public Works Department, Writers' Buildings, Calcutta, on payment of a deposit of Rs.25. These payments will be returned on receipt of a bona-fide design or if the applicant declines to compete or returns the said instructions within a month after the receipt of the replies to competitors' questions.

C. P. WALSH.
Secretary to the Govt. of Bengal.
Public Works Department.
Writers' Buildings, Calcutta, India.
December 1, 1920. 683

For Sale.

Six lines or under, 8s.; each additional line 1s.

HOUSING SCHEMES. Speciality. Sanitary Washable Distemper, all colours, at half usual prices. —Shade card and particulars from the South Coast Paint Co., Lymington. 684

SCAFFOLDING for Sale.—Large quantity of new spruce boards, poles, and pudlogs; delivered anywhere.—Lyons, 163, Holland Road, Kensington. 711

Miscellaneous.

Four lines or under, 4s.; each additional line 1s.

SECOND-HAND Optical Mart.
For the Purchase and Sale of
LEVELS, THEODOLYTES, DRAWING INSTRS.—Clarkson's, 338, High Holborn, London, W.C. (Opposite Gray's Inn Road).

STRODE AND CO., LTD., Engineers and Metal Workers, Manufacturers of Aero, Marine, and Automobile Engine Parts, Contractors for Lighting and Power, Heating and Ventilation.—48, Osnaburgh Street, London, N.W.1 and 18, Easy Row, Birmingham.

WANTED, copies of the "Architectural Review" from July, 1916, bound or unbound.—Technical Journals, Ltd., 27-29, Tothill Street, S.W.1.

Concise Costing for Housing

By T. Sumner Smith, M.Q.S.A., F.I.A.

Important to Builders and Contractors

The attention of Builders and Contractors is drawn to the fact that the present edition of "Concise Costing for Housing" is nearly exhausted.

The Publishers are doubtful whether it will be possible to reprint the book and publish it at its present price. Those who have not yet secured a copy would be wise to do so without delay.

Mr. Sumner Smith's book is a manual of practical utility. Every builder and contractor requires the information which it contains.

Price 5/-
Postage 6d.

TECHNICAL JOURNALS, LIMITED,
27-29, Tothill St., London S.W.1.

QL.S
ARB Arch.

UNIVERSITY OF ILLINOIS LIBRARY
1921

THE ARCHITECTS' JOURNAL & Architectural Engineer

UNIVERSITY OF ILLINOIS LIBRARY
1921

EDITION DE LUXE

Price Two-and-Sixpence net

27-29 Tothill Street, Westminster, S.W.1.

Vol. LII Registered as a Newspaper No. 1356

Architectural Decorators To H.M. King George V.

H. H. MARTYN & Co. Ltd

Sunningend Works, CHELTENHAM

and 5 Grafton Street Bond Street London W.1.

possess exceptional facilities for the prompt execution of all classes of

Architectural work in

CAST BRONZE AND IRON

All contracts carried out in specially equipped Foundries by skilled craftsmen. (SAND and WAX processes.) Work of highest order assured. Architects enquiries will receive immediate and personal attention.

Joinery

OF EVERY DESCRIPTION IN HARD & SOFT WOODS

Telephone 272 BATTERSEA (2 LINES)

ESTABLISHED 1882.

CHARLES. Peacock & Co. Ltd.

Contractors to

The Admiralty, War Office, Office of Works, Ministry of Munitions, Air Ministry and London County Council.

Quotations given on Bills of quantities and from Architects' designs.

NEAREST RAILWAY STATION WANDSWORTH RD. L.B&S.C RLY.

ST. ANDREW'S STREET, WANDSWORTH ROAD, LONDON, S.W.8

SIMPLEX CONCRETE PILES, LTD.

FOUNDATION CONTRACTORS.

If you are contemplating the erection of Buildings of any description such as Wharves, Grain Silos, Engine and Boiler Sheds, etc., and require **PERMANENT FOUNDATIONS**, send us particulars of your requirements and take advantage of our many years' **PRACTICAL EXPERIENCE. WE CAN SAVE YOU TIME AND MONEY.**

Our method of installing and driving **SIMPLEX CONCRETE PILES** at one operation **OBVIATES WEEKS OF DELAY IN COMMENCING and COMPLETING WORK.**

SKILLED WORKMEN & UP-TO-DATE PLANT. Schemes & Estimates submitted free.

Write for Illustrated Booklet:

SIMPLEX CONCRETE PILES, LTD., 104, VICTORIA STREET, WESTMINSTER, S.W.1

Telegrams: "SIMPILESCO, LONDON." **Scottish Office: 10, Cook Street, Glasgow.** Telephone VICTORIA 541.

TRADE MARK SHELL BRAND REGISTERED.

"SHELL BRAND" FLOOR POLISH

Messrs. HAMILTON have made a special study of the Preparation and Treatment of Floors, and will be pleased to confer with Architects and others with regard to such work.

Hundreds of the leading Institutions and Schools throughout the Kingdom have had their Floors treated by the "SHELL" method.

ARCHD. H. HAMILTON & CO., Possilpark, Glasgow.

Telegrams: "SATISFY."

GIBBONS "COTTAGE" WINDOW

WITH PATENT SLIDING SASH.

British Patent Nos. 12630/18; 123903/18 and 5535/19. Also patented in U.S.A., France, Belgium, Holland, Australia, New Zealand, Canada, India, and South Africa.

All outside surfaces easily cleaned from the inside of the rooms.

The sliding portion hinged to open inwards.

As supplied to the following Housing Schemes:—

Banbury, Barry, Bilston, Dudley, High Wycombe, Morpeth, Oxford, Wolverhampton, Wrotham, etc.

The first Cottages in Great Britain completed under the Government Housing Scheme, showing Gibbons' "Cottage" Windows fixed.

These Cottages are also fitted throughout with Gibbons' Locks and Furniture.

AMES GIBBONS, Ltd., St. John's Works, WOLVERHAMPTON.

London Office: 15/16, Fisher Street, Southampton Row, W.C. 1.

Alphabetical Index to Advertisers.

	Page
A1 Engraving Co., Ltd.	xxvi
Adamite Co., Ltd.	lviii
Adams, Robert	xxxvi
Anderson, D., & Sons, Ltd.	xvii
Anglo-American Oil Co., Ltd.	xxvii
Argus Printing Company, Ltd.	lxxii
Art Metal Construction Co., Ltd.	xxxii
Art Reproduction Co., Ltd.	xxxviii
Barrett & Wright, Ltd.	lxvii
Baxendale & Co., Ltd.	xviii
Bell's United Asbestos Co., Ltd.	xl
Berger & Sons, Ltd.	lvii
Blakeley, E. F., & Co., Ltd.	xlii
Booth, John, & Sons	xiii
Bottomley, J. C., & Emerson, Ltd.	iii
Boulton, J. & Co., Ltd.	lxxviii
Boulton & Paul, Ltd.	xxxvi
Bradford, E. J. & A. T.	lxviii
Briggs, W., & Sons, Ltd.	lvii
British Dolomite Co., Ltd.	xxx
British Fibrocement Works	xlii
British Luxfer Prism Synd., Ltd.	xxxii
British Reinforced Concrete Engineering Co., Ltd.	xlii., lxxii
British Roofing Co.	xxvi
British Uralite Co. (1908), Ltd.	xxxv
British Vacuum Cleaner Co., Ltd.	xxx
Brown, H., Ltd.	lxxviii
Bruster & De Launoit	lxiv
Building Exhibition	xv
Building Products, Ltd.	xlix
Burn Bros.	xii
Callender, G. M., & Co., Ltd.	lx
Candy & Co., Ltd.	lxvii
Carter & Co., Ltd.	lii
Caxton Publishing Co., Ltd.	lxxv
Cement Marketing Co., Ltd.	xix
Central Heating Co.	lxx
Charles and Read, Ltd.	lxxviii
Coatostone Decoration Co.	xxxiii
Cope & Timmins, Ltd.	lxxii
Coulthurst & Harding	xxx
Crane-Bennett, Ltd.	iii
Crittall	xxxix
Crowe, G. E. W.	lxxvii
Cuirass Products, Ltd.	iii
Davis Gas Stove Co., Ltd.	lxii
Dawnay, Archibald D., & Sons, Ltd.	iv., xlviii
De Jong, F. & Co., Ltd.	xx
Drew-Bear, Perks & Co., Ltd.	xxviii
Dunham Co., C. A., Ltd.	xxxvi
Edison Swan Electric Co.	l
Elliott, S., & Sons, Reading, Ltd.	lvi
Empire Stone Co., Ltd.	lv
Express Lift Co., Ltd.	li
Expanded Metal Co., Ltd.	lix
Farrer, W. E., Ltd.	ix
Farrow & Jackson, Ltd.	xx
Fawcett Construction Co., Ltd.	viii
General Electric Co., Ltd.	li
Gibbons, James	v
Gibson, Arthur L.	lxviii, lxxvii
Hall, J., & Sons, Ltd.	lxxviii
Hamilton, A. H., and Co.	ii
Haywards, Ltd.	xxxviii
Helical Bar and Engineering Co.	lxxvii
Hemel Hempstead Patent Brick Co. Ltd.	lxxviii
Higgs & Hill, Ltd.	xlvii
Homan & Rodgers (London)	lxvi
Homan & Rodgers (Manchester)	xxviii
Hope, Henry, & Son, Ltd.	lxii
Hy-Rib (Trussed Concrete Steel Co., Ltd.)	xlv
Ironite Co., Ltd.	xiii
Jackson, G., & Sons, Ltd.	liii
Jenkins, Robert, & Co., Ltd.	xxxvi
Johnson's Reinforced Concrete Engineering Co., Ltd.	xxxi
Kerner-Greenwood & Co., Ltd.	xliii
Kinnell, C. P. & Co., Ltd.	lxvii
Kleine Patent Flooring Syndicate, Ltd.	lxxx
Langfier	lxvii
Lovegrove, R. W.	lxix
Macandrews & Forbes, Ltd.	xli
Macfarlane, W., & Co.	lii
Maclean, Wm., Sons, & Co.	lxiv
McNeill, F., & Co., Ltd.	xxxvii
Martyn, H. H., & Co., Ltd.	ii
Measures Bros. (1911), Ltd.	vi
Medways Safety Lift Co., Ltd.	xiv
Mellowes & Co., Ltd.	
Messenger and Co., Ltd.	
Monitor Heating Co. of Gt. Britain	
National Galvanizers, Ltd.	
O'Brien, Thomas, & Co.	
Oldacres & Co.	
Oliver, Wm. & Son, Ltd.	
Peacock, Chas., & Co., Ltd.	
Phœnix Assurance Co., Ltd.	
Pocock Bros.	
Redpath Brown & Co., Ltd.	
Richmond Gas Stove and Meter Co., Ltd.	
Ruud Manufacturing Co.	
Sajan & Co.	
Sankey, J. H., & Son, Ltd.	
Skelton, R. A., & Co.	
Speaker, G. R., & Co.	
Siegwart Fireproof Floor Co., Ltd.	
South-Western Stone Co.	
Simplex Concrete Piles, Ltd.	
Steam Cleaning Corporation	
Stone Preservation Co., Ltd.	
Stuart's Granolithic Co., Ltd.	
Tann, John	
Technical Journals— xviii, xxii, xxiii, xxiv., lxxi, lxxvi	
Tickle, R. G., & Son	
Trussed Concrete Steel Co., Ltd.	
United Stone Firms	
Venesta, Ltd.	
"Venus"	
Vickers, Ltd.	
Vulcanite, Ltd.	
Waygood-Otis, Ltd.	
Webb, Percy C., Ltd.	
Whatman Drawing Papers	
Whitley Co., Ltd.	
Willcox, W. H., & Co., Ltd.	
Wild, J., & Co.	
Willesden Paper & Canvas Works, Ltd.	
Winget, Ltd.	

For Appointments (Wanted and Vacant), Competitions Open, Contracts Open, Drawings, Tracings, etc. Education, Legal Notices, Miscellaneous, Property and Land Sales— see pages viii., x., xii., xiv., lxxvi.

MEASURES BROS. 1911 LTD

Section Sheets and Estimates on Application.

Telegrams: "Measures, London."

STEEL JOISTS

Structural Steelwork — OF — Every Description.

Prompt Delivery fro Stock at Low Market Price

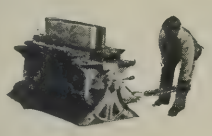
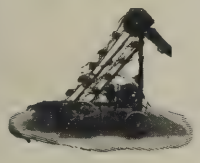
Telephone Nos.: 585, 586 & 2103 P

SOUTHWARK STREET, LONDON, S.

"WINGET"

CONCRETE MACHINERY

FIRST IN THE FIELD IN 1906 STILL LEADING IN 1921

	"WINGET" 32" BLOCK-MAKING MACHINE (HAND-TAMPED)	MAKES not only every kind of concrete block and slab for building purposes, including quoins, copings, flooring, bricks and sill blocks, but also concrete pipes, kerbs, gate piers, etc.
	"WINGET" PRESSURE MACHINE	SPECIALLY designed for the erection of cottages and small housing schemes. Makes various kinds of concrete blocks, half-blocks, partition slabs and bricks, plain or patterned face.
	"WINGET" CHAIN-SPADE MIXER	THOROUGHLY mixes 3 cubic feet batches in semi-wet, and 4 cubic feet batches in wet concrete. Can be driven by benzol or petrol engine, electric motor—of any voltage, A.C., or D.C.,—or belt-driven.
	"WINGET" CRUSHER	EQUALLY effective whether dealing with hard rock, light stone, brick, or any other aggregate. Three sizes: 8″×5″, 10″×7″, and 12″×8″ jaw mouth. Can be driven by benzol or petrol engine, or belt.
	"WINGET" ROOFING-TILE MACHINE	WINGET Tiles solve the roofing problem for all types of buildings. The concrete tiles can be coloured to any tone desired, and are made in three patterns.
	"WINGET" PORTABLE ELEVATOR	SUITABLE for handling bricks, blocks, sand, gravel, etc. Adjustable boom. Delivery point, 10 ft. to 18 ft. Effects great saving in time and wages. Driven by benzol or petrol engine.
	"WINGET" PORTABLE WAGON-LOADER	A SMALL type of elevator, with fixed boom, capable of loading a three-ton lorry in twelve minutes. Driven by benzol or petrol engine, or electric motor.

Head and Regd. Office: **WINGET LIMITED** Foundry and Engineering Works:

WINGET HOUSE,
24B Grosvenor Gardens,
Westminster, S.W.1

Telegrams: "Wingetism, 'Phone, London."
Telephone: Vic. 8334 & 8335.

TRADE WINGET MARK

THE CAPE,
WARWICK

Telegrams: "Wingetism, Warwick."
Telephone: Warwick 83.

COMPLETE LIST OF CONTRACTS OPE

Unless expressly stated to the contrary, all deposits required for bills of quantities, etc., are returned on receipt of bona-fide tenders. The words "Fair Wages Clause" inserted in certain paragraphs signify that persons tendering must conform to a fair wages clause in the Contract, which requires them to pay the rates of wages current in the district.

BUILDING.

December 29.—**HOUSES. Denton.**—Erection and completion of 24 houses on the Haughton Hall Estate, Hyde Road, Denton, for the U.D.C. Apply Mr. J. B. Cooke, Surveyor, Town Hall, Denton, near Manchester. Deposit £1 1s.

December 29.—**HOUSES. Birmingham.**—Erection of houses on various sites. Apply, Mr. Frank T. Cox, Housing Director, City of Birmingham, Moat Lane, Birmingham.

December 29.—**HOUSES. Haltwhistle.**—Construction of new sewers and roads on the Greencroft Estate; erection of 139 houses, for the R.D.C. Apply Mr. R. E. Hastewell, Architect, Westgate, Haltwhistle.

December 29.—**SAVINGS BANK. West Kensington.**—Excavation of the site in connection with the extension of the Savings Bank, Blythe Road. Apply, Director of Contracts, H.M. Office of Works, Storey's Gate, Westminster, S.W.1 Deposit 1 guinea.

December 30.—**CONVERTING. Chester.**—Conversion of the administrative block at the Poor Law Institution, Hoole Lane, Chester, into a nurses' home. Apply Messrs J. H. Davies and Sons, 14, Newgwate Street, Chester.

December 30.—**REPAIRS. Gilfach Goch.**—Repairs at 271, 273, and 275, High Street, Gilfach Goch, for the Llantrisant and Llantwit Fadre R.D.C. Apply Mr. T. Saunders, Council Offices, Pontyclun. Deposit £1.

December 31.—**HOUSES. Howden.**—Erection of three pairs of houses, at Broomfleet, E. Yorks, for the R.D.C. Apply Mr. Stephen Piper, Architect, Market Place, Howden. Deposit £1 1s.

December 31.—**ADDITION. Macclesfield.**—Erection of new classroom building, etc., at the County High School for Girls, Macclesfield, for the Chestershire C.C. Apply Mr. H. Beswick, County Architect, Chester. Deposit £2 2s.

December 31.—**HOUSES. Cottingham.**—Erection of thirty-six houses on land adjoining Southwoods Road, for the U.D.C. Apply, Mr. H. Andrew, Custom House Buildings, Whitefriargate, Hull. Deposit £4 4s.

December 31.—**MEMORIAL CROSS. Datford.**—Estimates, designs, and particulars are invited for the erection of a memorial cross in Scotch granite. Mr. S. Martin, Hon. Secretary, "The Dees," Watling Street, Dartford, Kent.

December 31.—**COTTAGES. Rotherhithe.**—Erection of three cottages in Orange Place, Lower Road, Rotherhithe, S.E., for the Bermondsey B.C. Apply Mr. F. Ryall, Town Clerk, Town Hall, Spa Road, S.E.16. Deposit £2 2s.

December 31.—**HOUSES. Frome.**—Erection of the following houses, for the Frome R.D.C., viz.: Beckington (Warminster Road), 6; Rudge, 2; Buckland 5; Faulkland, 8; Leigh-on-Mendip, 6; Nunney, 6; Rode 4. Apply Mr. J. A. Beynon, Nunney Road, Frome.

December 31.—**COTTAGES. Bermondsey.**—Erection of three cottages in Grange Place, Lower Road, Rotherhithe, S.E. Apply, Mr. Frank Ryall, Town Clerk, Town Hall, Spa Road, S.E.16. Deposit £2 2s.

January 1.—**HOUSE. Woodford.**—Erection of house at "Hart's" sanatorium, Snakes Lane, Woodford, Essex, for the East Ham Corporation. Apply Borough Engineer, Mr. J. Birch, Town Hll, East Ham, E.6. Deposit £2 2s.

January 1.—**HOUSES. Newmarket.**—Erection of six houses at Lode, for the R.D.C. Apply Mr. S. J. Ennion, Clerk, Deva Chambers, Newmarket. Deposit £2 2s.

January 1.—**RENOVATION. Sandhurst (Kent).**—Renovation of the Old School. Lower Green, Sandhurst. Apply Mr. R. Piper, Conghurst, Hawkhurst.

January 3, 1921.—**HOUSES. Kent.**—Erection of houses for the staff and teachers, for the Kent Education Committee, County of Kent. Mr. W. H. Robinson, Council's Architect, 63, Sessions House, Maidstone. Deposit £2.

January 3.—**CONVERSION. Deptford.**—(sion of 52, Wickham Road, Brockley, into a nity home, for the Deptford B.C. Apply Mr. Lawson, Borough Surveyor, Town Hall, New Road, S.E.14.

January 3.—**HOUSES. Shrewton.**—Erectior houses in the following parishes, for the Ar R.D.C., viz.: Shrewton, 4 houses; Winter Earls, 4; Maddington, 6; Middle Woodford, 4. Mr. J. H. Blizard, F.R.I.B.A., 12, Bridge Salisbury. Deposit £2 2s.

January 3.—**CONVERSION Beaufort.**—E and conversion of Army huts into dwellings a fort. for the Ebbw Vale U.D.C. Apply Mr Davies, Housing Architect, Council Offices, Vale. Deposit £2.

January 3.—**HOUSES. Llandegfan.**—Erec 16 houses on the "Bachau" site, Llandegf the Anglesey (East) Joint Housing Board. Office of the Board, 12, High Street, Menai Deposit £1 1s.

January 4.—**HOUSES. West Riding.**—Erec 11 houses, 10 homesteads, and 8 pairs of cott the Eastley and Leathley Estate, for the Wes Small Holdings Committee. Apply Count Agent, County Hall, Wakefield. Deposit £1

January 4.—**HOUSES. Kingussie.**—Erectio four-apartment houses, for the T.C. Ap Alexander Cattanach, Burgh Surveyor, King

January 4.—**REPAIRS. Cowling.**—The Wes Education Committee invite whole tenders following works: Cowling Council School— repairs to premises and head teacher's house Wes Riding Education Architect, County Hal field.

January 4.—**ALTERING. Cwmaman.**— repairing, and renovating works at "Moriah Welsh Congregational Chapel, "Brynhyfryd" room and "Gwynfryn," Cwmaman, near A for the trustees. Apply 3, Morris Street, Cw or at Messrs. T. Roderick and Sons, Archite ton Street, Aberdare.

(*Continued on page* x.)

'MON'LITHCRETE'

AN INEXPENSIVE RIGID FLOOR, VERMIN PROOF AND EASILY AND RAPIDLY FIXED. LARGE STOCKS IN ALL SECTIONS READY FOR IMMEDIATE DELIVERY.

For Estimates and Full Particulars apply to

FAWCETT CONSTRUCTION CO. LTD

65, Victoria Street, S.W.1.

Telephone No. Vic. 5846. Telegraphic Address: Abednego, Vic. Londo

SEWAGE DISPOSAL

for

HOUSING SCHEMES & ISOLATED BUILDINGS

A correctly designed scheme will fail if the method of distribution is faulty or the Distributor gets out of order. In fact, efficient distribution is vital to a good effluent.

FARRER'S IMPROVED AUTOMATIC DISTRIBUTOR

Satisfies the most exacting requirements, not only providing a standard for equality of distribution not attainable by others, but so designed and manufactured as to last a life-time. It therefore cannot be produced so cheaply as those made from lighter materials, or less efficient in working; but the slightly extra expense is more than compensated when the cost of maintaining the scheme is borne in mind. There is as much difference between Farrer's Distributor and others, as between a Rolls-Royce and a Ford.

Telephone Nos.—
1903 } Central, Birmingham.
1904 }
6011 Westminster, London.
Telegrams—"Farrer, Birmingham."

WILLIAM E. FARRER LTD.
STAR WORKS, HEATH MILL LANE
BIRMINGHAM

January 4.—**HOUSES. Wakefield.**—The West Riding Small Holdings Committee invite tenders for the following works: 11 houses, 10 homesteads, eight pairs of cottages, with all site work complete. Apply County Land Agent, County Hall, Wakefield. Deposit £1.

January 5.—**HOUSES. Spennymoor.**—Erection in brick of 14 pairs of semi-detached B3 type houses on the Merrington Lane site, Spennymoor, for the Spennymoor U.D.C. Apply Surveyor, Town Hall, Spennymoor. Deposit £3 3s.

January 5.—**COOKHOUSE. Glossop.**—Taking down the present cookhouse, etc., at the Poor Law Institution and rebuilding same, for the Guardians. Apply Mr. C. F. V. Fenton, Clerk. Deposit £2 2s.

January 5.—**ROOFS. Bury.**—Construction of new roof over the cold stores and new gates at the public abbattoirs, for the Corporation. Apply Mr. J. A. Settle, A.M.I.C.E., Borough Engineer and Surveyor, Bank Street, Bury. Deposit 10s. 6d.

January 5.—**HOUSES. Clacton-on-Sea.**—Erection of six houses on the north side of Central Avenue, for the U.D.C. Apply Mr. D. J. Bowe, Surveyor to the Council Town Hall, Clacton-onSea. Any tender accepted will be subject to the approval of the Ministry of Health.

January 6.—**PLASTERERS' LATHS. London.**—The Commissioners of H.M. Works, etc., invite tenders, addressed to the Secretary, H.M. Office of Works, etc., Storey's Gate, Westminster, London, S.W.1, for the supply of plasterers' laths, first quality.

January 6.—**COTTAGES. Sandbach.**—Erection of cottages in Crewe Road, Sandbach, for the U.D.C. Apply Mr. J. R. Price, Architect, Sandbach. Deposit £2 2s.

January 6.—**SCHOOL BUIILDING. Bexley Welling, Kent.**—Enlargement of the Bexley Welling Infants" Council School by the addition of eighty places, for the Kent Education Committee. Mr. W. H. Robinson, Architect, 63, Sessions House, Maidstone. Deposit £2.

January 6.—**SANATORIUM. Birmingham.**—Erection of West Heath Sanatorium. Apply The Secretary, H.M. Office of Works, Storey's Gate, Westminster, London, S.W.1. Deposit £1 1s.

January 7.—**HOUSES. Stanley.**—Erection of houses: 20 " A South " type; 18 " A North " type; six " B South " type; four " B4 South " type. Apply Messrs. Massie and Holdsworth, Architects and Surveyors, Yorkshire Buildings, Wood Street, Wakefield.

January 7.—**SLATES. London.**—The Commissioners of H.M. Works invite tenders for the supply and laying or (alternatively) laying only of slates in connection with Yiewsley housing scheme. Forms of tender, etc., may be obtained on application to the Director of Contracts at Storey's Gate, S.W.1.

January 7.—**COTTAGES. Kirbymoorside.**—For cottages at Kirbymoorside, for the R.D.C. Apply Mr. R. Jennings, Clerk, Kirbymoorside.

January 8.—**FITTING UP. Annfield Plain.**—Fitting-up, with shop fittings, of chemist's shop at Annfield Plain, for the Annfield Plain Industrial Co-operative Society, Ltd. Apply, Mr. G. T. Wilson, L.R.I.B.A., 21, Durham Road, Blackhill, Co. Durham.

January 10.—**HOUSES. Hessle.**—Construction of street and sewer works in connection with the laying out, for housing purposes, of about 7¾ acres of land, situate between Barrow Lane and Tower Hill, Hessle; erection of 80 houses. Apply Mr. J. M. Dossor, F.R.I.B.A., Waterloo Chambers, Hull. Deposit £2.

January 10.—**HOUSES. Truro.**—Erection of houses on the following sites: Tresillian, four; Gerrans, eight; Grampound Road, four; Trispen, six; Kea, 2. Apply Mr. A. J. Cornelius, 81, Lemon Street, Truro.

January 10.—**STREET WORKS. Valley.**—The R.D.C. invite tenders for erection of street works at Valley and erection of houses as follows: Scheme (1) Aberffraw (Soar), four cottages in two blocks; (2) Aberffraw (Penycloc), four cottages in two blocks; (3) Llangwyfan (Gorsymryson), eight cottages in three blocks; (4) Ceirchiog (Tynlon), four cottages in two blocks; (5) Cerrigceinwen (Ty Llwyd), six cottages in three blocks); (6) Cerrigceinwen (Penterfyn), eight cottages in two blocks; (7) Heneglwys, eight cottages in three blocks; (8) Llandrygarn (Gwyndy), twelve cottages in four blocks; (9) Llechyched (Plas), eight cottages in three blocks; (10) Llanynghenedl (Valley) eight cottages in four blocks; (11) Llanfachreth, twelve cottages in four blocks; (12) Llanfwrog, four cottages in two blocks; (13) Llanddeusant, twelve cottages in four blocks; (14) Llantrisant (Carmel), four cottages in two blocks. Apply Messrs. J. Owen and Thomas, Exchange Chambers, Holyhead.

January 10.—**SUB-STATION. Leeds.**—Construction of a sub-station to be erected in Gledhow Wood Road, for the T.C. Apply Carby Hall and Dawson, Prudential Buildings, Park Row, Leeds.

January 10.—**HOUSES. Monifieth.**—For any the following works in connection with the e tion of 14 houses at Ferry Road and Durham Str Monifieth. (1) Excavator and brick work (alte tive for concrete blocks and stone); (2) carpen joiner, and ironmonger works; (3) glazier wo (4) slater and rough cast works; (5) plumber gasfitter works; (6) plaster and cement works; painter work. Apply Mr. D. Gowans, Town Cl Monifieth, or Mr. C. A. Mackenzie, Burgh Surve Monifieth.

January 10.—**HOUSES. Northampton.**—Erec of 118 houses of concrete block construction, 118 houses of brick construction on the Harlest Road site, St. James', Northampton. Apply Mr. Fidler, M.I.C.E., Borough Engineer, Guildhall, No ampton. Deposit £5.

January 11.—**CONVERTING. Nottingham.**—(verting 28, Chaucer Street, into medical ins tion centre. Apply Mr. A. Dale, City Archit Guildhall. Deposit £1.

January 11.—**BUILDING. Gosforth.**—Erectin building to contain a steam disinfector in the C cil's Smallpox Hospital grounds, South Gosfo Apply Mr. Geo. Nelson, Surveyor, Council Chamb Gosforth.

January 14.—**HOUSES. Skipton.**—(1) Erectio eight parlour houses and ten scullery houses, Road making and sewering. Apply, Mr. Aldri Council Offices, Skipton. Deposit £1 1s.

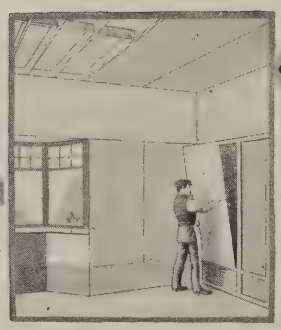
January 14.—**HOUSES. Torquay.**—Erection o houses on the Westhill Estate, for the T.C. A Mr. J. E. Knapman, Housing Clerk and Regis Town Hall, Torquay.

January 15.—**SANATORIUM WORKS. Middl in-Wharfedale.**—The West Riding Public Health Housing Committee invite tenders for laying ou grounds (landscape gardener's work; conversio Army huts into workshop, stores, and nurses' c ters. (Trades: Bricklayer, carpenter, plumber, painter.) Construction of macadamised roads asphalted paths; composite flooring. Apply Riding Architect, County Hall, Wakefield.

January 15.—**POLICE STATION. Haverton H** Erecting police station at Haverton Hill, Dur for the County Council. Apply County Architec Surveyor's office, Shire Hall, Durham. Securit the proper completion of the work will be requ

(Continued on page xii.)

Venesta Plywood



The best material for the best work

For Panelling and Partition work of every description there is nothing to equal Venesta Plywood Panels. They are unshrinkable, unsplinterable, hygienic, and non-absorbent, and their delightful surface is admirable for taking paint, enamel or polish, without preliminary preparation.

For quick, dry, and reliable construction, there is nothing better, and the result upon completion is far superior to anything possible with lath and plaster.

We also design, supply, and fix Tudor and Jacobean Period Panelling in oak, walnut, mahogany, etc., and shall be pleased to submit designs and estimates.

Write for Illustrated Booklet.

Venesta Ltd
Plywood Manufacturers
1. Great Tower Street. London. E.C.3

Telephone: London Wall 4760 (5 lines).

CITY OFFICE:—
63 LINCOLN'S INN FIELDS,
LONDON, W.C.2.

LONDON WORKS:—
GLENGALL ROAD,
MILLWALL, E.

STUART'S GRANOLITHIC Co., Ltd.

FOUNDED 1840

Specialist Designers and Constructors of Ferro Concrete Works

PAVINGS STAIRCASES
ARTIFICIAL STONE WORK
FERRO CONCRETE GLAZING BARS

AND AT
46 DUFF STREET,
EDINBURGH.

AND AT
MANCHESTER,
BIRMINGHAM.

January 17.—**ALTERATIONS. West Ham.**—Alterations and additions to the Fyfield Industrial School, near Ongar, Essex, for the County Borough of West Ham. Apply Mr. John H. Jacques, Architect to the Education Committee, 2, Fen Court, Fenchurch Street, E.C.3. Deposit £5 Bank of England note.

January 18.—**JOINERY. London.**—The Commissioners of H.M. Works, etc., are prepared to receive tenders, addressed to the Secretary, H.M. Office of Works, etc., Storey's Gate, Westminster, London, S.W.1, for the supply of joinery in connection with various housing schemes.

January 18.—**HOUSES. Bishop Sutton.**—Erection of 44 houses at Bishop Sutton, for the Clutton R.D.C. Apply office of the Architects, Messrs. Thomas and Morgan and Partners, 23, Gelliwastad Road, Pontypridd. The houses will be built in pairs, and tenders may be for one or more pairs, not exceeding seven.

February 7.—**BUILDING. Pietermaritzburg.**—Supply and delivery only of steel-framed building, forming extension to locomotive erecting and machine shops, Pietermaritzburg. Apply High Commissioner for the Union of South Africa, 32, Victoria Street, London, S.W.1.

No Date.—**BUILDINGS. Chadderton.**—Erection of a building in Middleton Road, to be used as a child welfare centre and school clinic. Apply Surveyor's office, Town Hall, Chadderton.

No Date.—**WAR MEMORIAL. Launceston.**—Granite war memorial in the Square, Launceston. Apply Messrs. Sedding and Stallybrass, Architects, 12, Queen Anne Terrace, Plymouth.

No Date.—**NURSES' HOME. Middlesbrough.**—Nurses' home and operating theatre at Eston Hospital, Middlesbrough. Apply Messrs. R. Lofthouse and Sons, A.A.R.I.B.A., Architects, 129, Albert Road, Middlesbrough. Trade union rate of wages to be paid.

No Date.—**MEMORIAL. Pontardawe.**—Granite memorial and preparation of site. Apply Mr. Glendinning Moxham, F.R.I.B.A., Architect, 18, Castle Street, Swansea.

No Date.—**SCHOOL. Westbury-on-Trym.**—Erection of new secondary junior school at Northcote, Westbury-on-Trym, Bristol. Apply Mr. H. Williams, Architect, 44, Corn Street, Bristol.

No Date.—**HOUSES. West Drayton.**—Construction of a road and sewer, and the erection of 42 houses, for the Uxbridge R.D.C. Apply Mr. F. Hall-Jones, Parliament Mansions, Victoria Street, Westminster, S.W.1. Deposit £2 2s.

No Date.—**COTTAGES. Norfolk.**—Erection of the following cottages, for the Aylsham R.D.C.: Wickmere, four cottages in pairs; Kerdiston, four cottages in pairs. Apply Mr. G. J. Skipper, F.R.I.B.A., 7, London Street, Norwich.

No Date.—**RECONSTRUCTING. Wilton.**—Reconstruction of hutted camp at Wilton, to provide 14 cottages. Apply Messrs. Blount and Williamson, M.R.I.A.I., and A.R.I.B.A., Mitre Chambers, New Street, Salisbury.

ELECTRICAL.

December 30.—**ELECTRIC LIGHTING. Walsall.**—Lighting by electricity of the whole of the infirmary and also the men's day room at the workhouse, for the Board of Guardians. Mr. A. H. Lewis, Clerk, 29, Leicester Street, Walsall.

December 31.—**ELECTRIC LIGHT. Antwerp.**—Installation of electric light at Dry Dock No. 61 at Antwerp. Apply Department of Overseas Trade Old Queen Street, Westminster, S.W.1.

December 31.—**WIRING. Blackpool.**—Electrical wiring and fittings of houses on the following sites of the Municipal Housing Scheme: Layton Estate scheme of 164 houses. Apply Messrs. F. T. Waddington, Lic.R.I.B.A., and H. G. Waddington, A.R.I.B.A., Architects, 52, Abingdon Street, Blackpool. St. John's Estate scheme of 246 houses, apply Messrs. Lumb and Walton, Architects, 19, Clifton Street Blackpool. Deposit 5s.

December 31.—**DYNAMOS. Yeovil.**—Supply of a 4 k.w. dynamo and switchboard, with connections. Apply Mr. A. J. Price, Borough Surveyor, Municipal Offices, Yeovil.

January 1.—**PLANT. Portrush.**—Gas plant, engines and dynamos, booster and balancer switchboard, accumulators, mains, underground and overhead. Apply Mr. W. I. Cunningham, Clerk, Town Hall, Portrush. Deposit 20s.

January 3.—**CABLE. Cape Town.**—Supply of 8,000 yards of 4-core cable, in conformity with the British Engineering Standards Committee's Spesification No. 7 of 1919, for cable to be worked at a pressure of 600 volts on a 3-phase 4-wire system, also 84 joint boxes. Apply Department of Overseas Trade (Room 48), 35, Old Queen Street, Westminster, S.W.1.

January 5.—**ALTERNATOR. Battersea.**—Supply of pipework for a 5,000 kw. turbo alternator, for the Battersea B.C. (Electricity Department). Apply Electrical Engineer, Lombard Road, Battersea, S.W.11.

January 6.—**ELECTRIC WIRE. London.**—T Commissioners of H.M. Works, etc., invite tende addressed to the Secretary, H.M. Office of Wor etc., Storey's Gate, Westminster, London, S.W.1, the supply of electric wire and cable.

January 11.—**WIRING. Leyton.**—Electric wir to 142 houses in course of erection on the Barc Estate, Leyton, for the U.D.C. Apply Mr. J. Jaques, L.R.I.B.A., 2, Fen Court, Fenchurch Str E.C.3. Deposit £1.

January 26.—**TELEPHONE CABLE. Johann burg.**—Supply of telephone cable (air sp and paper insulated type), paper slee cast-iron pipes and concrete pipes (for c veying underground cable), and various t phone and miscellaneous electrical accesso and materials. Supply of one 1,000 k.w. rotary c verter, with the necessary transformers and swi gear for converting 3-phase current at 6,600 vo 50 cycles, to D.C. at 525-550 volts, the speed to 750 r.p.m. Apply Department of Overseas Tr (Room 48), 35, Old Queen Street, S.W.1.

January 26.—**TELEPHONE APPARATUS, E Queensland.**—Supply and delivery to the Postmas General's Department, State of Queensland, of t phone apparatus and parts. Apply High Com sioner for Australia (Room 406), Australia Ho Strand, W.C.2.

February 22.—**MACHINERY. Auckland.**—Su and erection of the following machinery: Sectio —One 3,000 kw. righ tension turbo-alternator, 5,000 kw. high tension turbo-alternators, four 1 kw. rotary converters, four 500 kw. rotary verters, switchgear and transformers. Section Four water-tube boilers, conveyor, pumps, pipew Section C—High and low-tension cables. A Messrs. Preece, Cardew and Rider, 8, Queen An Gate, London, S.W.1. Deposit £2 2s.

ENGINEERING.

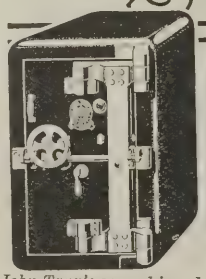
December 30.—**MOTOR VANS. Belfast.**—Su of two petrol-driven motor vans, for the Po Committee. Apply Mr. R. Meyer, Town Clerk.

December 31.—**HEATING. Birmingham.**—For pressure heating and hot water services for a tion of the Dudley Road Hospital, for the Boar Guardians. Apply Messrs. Edwards and Shaw, sulting Engineers, 105, Colmore Row, Birmingh Deposit £5 5s.

January 4.—**RAILWAY WIDENING. Bridgen** For widening the railway for additional loop between Bridgend and Margam, for the G.W.R. Apply Engineer, Paddington Station, London.

(Contracts continued on page xiv.)

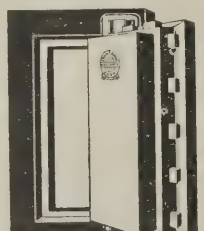
JOHN TANN Security



John Tann's crane-hinged "Invulnerable" Safe.

JOHN TANN'S Safes, Strong Rooms and Strong Room Doors have been supplied for the use of Their Majesties the King and Queen, The Admiralty, War Office, India Office, H.M. Office of Works, L.C.C., and many other Government and Municipal Authorities including the Metropolitan Water Board Offices illustrated in this issue.

The Technical Management of John Tann, Ltd., is in the hands of Captain J. L. Tann, B.Sc. (Lond.), A.M. Inst. C.E., A.M.I. Mech.E., A.C.G.I., who will be pleased to confer with Architects in connection with installations for Banks and other Buildings.



John Tann's List 15 Bankers' Door.

Trade

Mark

Illustrated Catalogues from

JOHN TANN LTD
117, NEWGATE STREET, LONDON, E.C.1

ESTD. 1795

BURN BROS

Cast Iron Gas-tigh House Drains, & L.C.C. Soil Pipe & Fittings.

LARGEST STOCK THE TRADE FOR INSTAN DELIVERY.

Endless variety of Patterns to Select from.

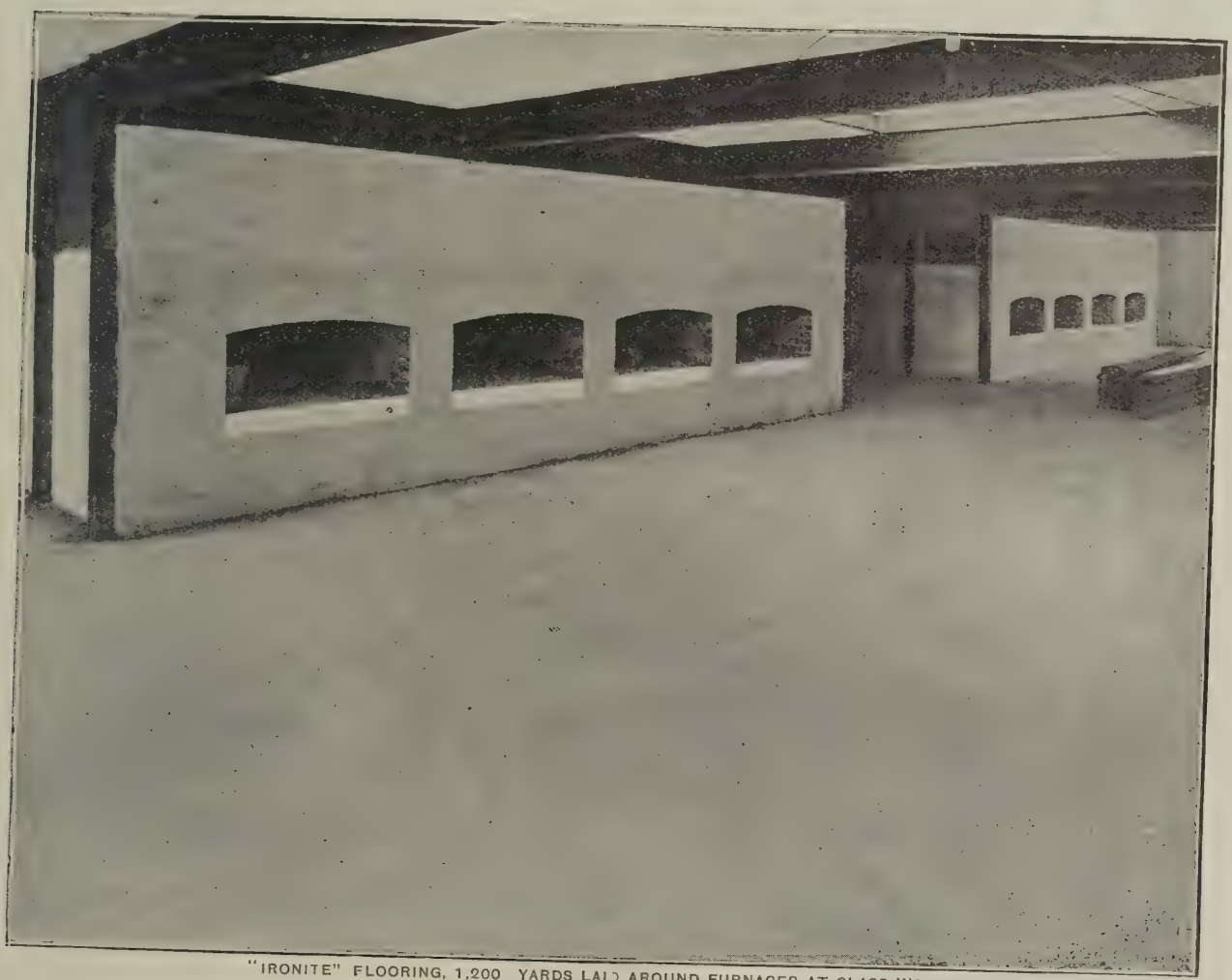
ROTUNDA WORK 3, Blackfriars Road, LONDON, S.

"IRONITE"

ENTIRELY BRITISH

Registered Trade Mark

ECONOMICAL METHOD FOR HOUSING & RECONSTRUCTION



"IRONITE" FLOORING, 1,200 YARDS LAID AROUND FURNACES AT GLASS WORKS.

IRONITE AND CEMENT SLURRY for Coating and Waterproofing WALLS

One coat applied with a brush absolutely waterproofs Breeze Blocks, Concrete, Brickwork, &c., against heavy water pressure AND SAVES ALL THE COST OF RENDERING. Over 1½ million square yards already treated for H.M. Government, &c.

"IRONITE" Brand Cements for FLOORING and WATERPROOFING

Makes Concrete Floors WEAR PROOF, DUST PROOF, WATER PROOF, GREASE PROOF.
The ideal flooring for Collieries, Engineering Works, Shipyards, Quays, Garages, Aircraft Sheds, &c.
For rendering *at a very low cost*, Cement, Bricks, Concrete, Wood, &c., *absolutely Waterproof and Oil Proof* against heavy water pressure.
FLAT ROOFS rendered Waterproof at less than half the cost of Asphalt.

For full particulars apply to

THE IRONITE COMPANY, LIMITED

(Managers—S. THORNELY MOTT & VINES, Ltd.),

11, OLD QUEEN STREET, WESTMINSTER, LONDON, S.W.1.

Telephone: No. 5618 VICTORIA.

Telegrams: THORMOTVIN, VIC., LONDON.

January 4.—**CHASSIS, ETC. Dundee.**—Supply and delivery of 2 motor 'bus chassis and bodies and 2 char-a-banc bodies and chassis, for the Dundee T.C. Apply Mr. W. T. Young, General Manager, Tramways Office Town Hall, Dundee.

January 5.—**ROAD-MAKING PLANT. Lincoln.**—Supply and delivery of the following road-making plant: Steam rollers, steam tractors, steam wagons, trailers, side-tipping, water carts, sleeping vans, tar-spraying machines, sweeping machines, hand-carts, wheelbarrows, steel barrels for tar. Apply Mr. A. G. Bradshaw, County Surveyor, Newland House, Lincoln.

January 10.—**REINFORCED CONCRETE BRIDGE. Tournai.**—Construction of reinforced concrete bridge at Tournai. Apply Inquiry Room, Department of Overseas Trade, 35, Old Queen Street, London, S.W.1.

January 10.—**PUMPING PLANT. Grays.**—Supply of four crude oil engines, C.C. dynamos, centrifugal pumps, screens, travelling overhead cranes, and other machinery, for the Thurrock, Grays and Tilbury Joint Sewerage Board. Apply Messrs. John Taylor and Sons, Engineers, 36, Victoria Street, Westminster, S.W.1. Deposit £5.

January 12.—**ENGINE. Hong Kong.**—The Crown Agents for the Colonies invite tenders for the manufacture and delivery f.o.b. of the following for the Public Works Department, Hong Kong: A horizontal triple-expansion or other type of steam engine, coupled direct to high and low-lift pumps to lift to a height of 1,625 ft. and 565 ft. respectively, with a Lancashire boiler superheater, pipe work valves, and other accessories. Apply Chief Engineer, Crown Agents for the Colonies, 4, Millbank, Westminster. Deposit £5.

January 17.—**BOREHOLES. Poole.**—Sinking two 21-in. diameter boreholes at Poole Waterworks Pumping Station at Corfe Mullen. Apply Mr. A. P. I. Cotterell, M.Inst.C.E., 17, Old Queen Street, Westminster, S.W.1. Deposit £5 5s.

January 24.—**STEEL FRAME BUILDING. Johannesburg.**—Supply to South African Railways Headquarter Offices, Johannesburg, of steel framed building forming extension to saw mill, Salt River Workshops. Apply High Commissioner for the Union of South Africa, 32, Victoria Street, London, S.W.1.

January 25.—**BRIDGE. Taunton.**—Erection of a ferro-concrete bridge over the River Tone. Apply Mr. I. F. Shellard, A.M.I.C.E., Borough Engineer and Surveyor, Municipal Buildings, Taunton.

May 2.—**GRAIN ELEVATOR. South Africa.**—Construction of: One terminal grain elevator at Cape Town, capacity 30,000 tons of 2,000 lb.; one terminal grain elevator at Durban, capacity 42,000 tons of 2,000 lb.; 34 country elevators, ranging in capacity from 1,800 to 5,800 tons of 2,000 lb. Apply High Commissioner for the Union of South Africa, 32, Victoria Street London. Deposit £100.

No Date.—**WHEEL PRESS London.**—One modern wheel press, to take axles up to 6-in. diameter by 7 ft. long, wheels 4 ft. 8½in. gauge. Apply Chief Mechanical Engineer, South Metropolitan Gas Company, 709, Old Kent Road, London, S.E.15.

ROADS & SEWERS.

December 29.—**PIPES. Cairo.**—Supply of vertical cast-iron socket pipes and specials required for the Suez main drainage. Apply Department of Overseas Trade, 35, Old Queen Street, S.W.1.

December 31.—**WATER MAIN. Yeovil.**—Carting, excavating for and laying about 2,100 yards of 6-in. and about 700 yards of 12-in. cast-iron mains, valves, hydrants, etc. Apply Mr. A. J. Price, Borough Surveyor and Water Engineer, Municipal Offices, Yeovil. Deposit £2.

January 3.—**FLINTS. Broadstairs.**—Removal of about 500 cubic yards of flints from "The Colborns," at Dumpton, and to be delivered to various parts of the district and to be broken to a 2-in. gauge, for the Broadstairs and St. Peter's U.D.C. Apply Mr. L. A. Skinner, Clerk, Pierremont Hall, Broadstairs.

January 4.—**SANITARY. Elham.**—Emptying of cesspools and pail closets in the parish of Lyminge, for the R.D.C. Apply Mr. W. E. Mancock, Inspector of Nuisances, Lyminge.

January 4.—**REMOVAL OF REFUSE. London.**—Collection, removal and disposal of refuse, whether (1) Sewage and other refuse from conduits; (2) dust, rubbish, and other refuse from car sheds and other depots (except permanent way depots); (3) excavation rubbish and other refuse from permanent-way routes and depots, in connection with the Council's tramways. Apply General Manager, London County Council Tramways, 23, Belvedere Road.

January 4.—**PAVING MATERIAL. Dublin.**—Supply and erection of plant for the manufacture of tar macadam, asphalte concrete, and asphalte surface coat, for the T.C. Apply, Mr. Patrick Tobin, Secretary, Paving Committee, City Hall, Dublin.

January 7.—**MAIN. Ripley.**—Laying new 6-in. water main from Church Street to Argyll Road, Ripley, with all special pipes, valves, hydrants, and surface boxes, and connecting all existing services, etc. (including taking up the existing 3-in. main). Apply Mr. G. W. Bird, C.E., Town Hall, Ripley.

January 31.—**PIPES. London.**—Supply and de very of cast-iron pipes up to 21-in. internal diamet together with sluice stop valves, etc., for the Jha Water Supply Scheme. The total weight of pi will be about 14,000 tons. Sealed tenders, acco panied by a deposit of £300 sterling, to Sir Al Binnie, Son and Deacon, 30, Buckingham Gate, V toria Street, Westminster, S.W.1.

MISCELLANEOUS.

December 29.—**DRY EARTH SYSTEM. New Qu** —Installing the dry earth system in the out offi of the New Quay Council School, and of erecting shed for the storage of dry earth, for the Cardig shire Education Committee. Apply "Glyn," N Quay.

December 30.—**RIVETS. Egypt.**—The Egypt War Department invite tenders for rivets, bolts nuts. Apply Sir A. L. Webb, K.C.M.G., Qu Anne's Chambers, Westminster, S.W.1.

December 31.—**COOKING APPARATUS. T caster.**—Providing and fiting a cooking apparatus hot water supply at the Workhouse. Apply Mes Jackson Stops, Towcester.

December 31.—**CEMETERY EXTENSION. vizes.**—Extension to cemetery, for the Devizes Roundway Joint Burial Committee. Apply Mr. A Randell, Architect, 16, Market Place, Devizes.

January 1.—**CEMETERIES. France.**—For third programme of construction consisting approximately 45 cemeteries in France and Belgi Apply Secretary (Works Branch), Imperial Graves Commission, 33 38, Baker Street, London,

January 5.—**TOOLS. Cardiff.**—Supply of tools ironmonger's goods for one year, for the Glamo County Council. Apply Mr. G. A. Phil M.I.C.E., County Surveyor, Glamorgan County Cardiff.

January 15.—**EARTHENWARE. Napsbur** Supply of earthenware for 12 months, to the N bury Mental Hospital, Napsbury, St. Alb

February 22.—**LIGHTING. Calcutta.**—The poration of Calcutta invite tenders for supply delivery of lighting stores for public street la and municipal institutions for twelve months April 1, 1921. Apply Central Record Keeper, tral Municipal Office Buildings, Calcutta. De Rs. 2. The principal articles required are (a verted incandescent gas mantles for street light (b) inverted incandescent gas burners, comp (c) glass cylinders for inverted burners; (d) panes for street lamps; (e) brass nipples of for gas burners.

BRITAIN'S BEST

ELECTRIC LIFTS

MEDWAY'S

SAFETY LIFT COMPANY LIMITED

MAKERS OF HIGH GRADE LIFTS FOR ALL PURPOSES

ELECTRIC, HYDRAULIC, HAND-OPERATED

London Office: 1 & 2 BUCKLERSBURY, E.C. 4
('Phone, City 4386.)

Works: LONDON & MAIDSTONE.

AGENCIES IN PRINCIPAL PROVINCIAL TOWNS, THE COLONIES AND ABROAD

BRITISH THROUGHOUT - - ESTD. 1880

Building

PATRON:

H.M. THE KING

APRIL

12th to 26th,

1921.

OLYMPIA

Offices: 43 Essex Street, Strand, W.C.

Exhibition

CHARLES & READ LTD.

ARCHITECTS' TYPISTS, LITHOGRAPHERS, DRAUGHTSMEN, LAW STATIONERS & PRINTERS.

HEAD OFFICE
27 CHANCERY LANE
LONDON W.C.2
Telephone
HOLBORN 153 & 6387

CITY OFFICE
3 & 4 GREAT WINCHESTER ST
LONDON E.C.2
Telephone
CENTRAL 1380

ARCHITECTS & SURVEYORS

BILLS OF QUANTITIES AND SPECIFICATIONS

Lithographed or Typewritten and Carbon Copies
Immediate Attention No Waiting

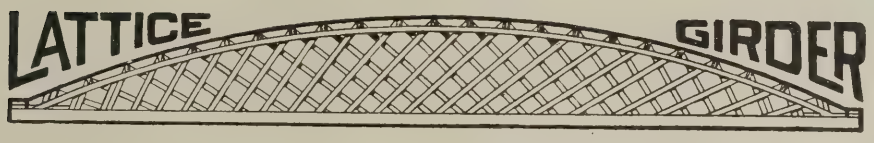
ESTATE PLANS AND DRAWINGS COPIED REDUCED OR :: ENLARGED PHOTO PRINTS OF DRAWINGS A SPECIALTY TRUE TO SCALE (BLACK ON WHITE) PRINTS, BLUE PRINTS.

REPRODUCTIONS BY ALL PROCESSES

RED HAND TRADE MARK

Anderson's

"BELFAST" ROOFS



COVERED WITH

"ROK" ROOFING

"BELFAST ROOFS" are cheaper, lighter, and more durable than iron roofs. Acid and alkali proof. No rust to contend with. A large ground area covered without centre supports. They *need no paint.*

"ROK" ROOFING is cheaper than slates or tiles—completely renovated by a coat of "ROK" Mastic. In combination they are unequalled for strength, durability and economy.

ILLUSTRATED CATALOGUE POST FREE ON REQUEST.

D. ANDERSON & SON, LTD.,

Dept. J, LAGAN FELT WORKS, BELFAST.
ROACH ROAD WORKS, OLD FORD, LONDON, E.

Texo

The Original Plastic Compound for Repairing

LEAKY ROOFS

OF EVERY DESCRIPTION.

(British Manufacture)

TEXO is a plastic compound of asbestos and plastic material, and has about the same consistency as putty, except that it has a great deal more strength. It is black in colour.

It is easy to apply. A quantity of Texo, a common trowel or putty knife, and the necessary time are all that is needed to make the leakiest roof perfectly watertight.

Texo can be applied to any kind of a surface. Once applied, it sticks with a bull-dog grip, never running, never cracking.

Extreme weather conditions won't affect Texo in the least. It withstands equally well the sun's hottest rays or Jack Frost's iciest blasts. Flying sparks will not ignite it—another decided advantage.

Texo makes a lasting repair. It will seal cracks and leaks, not for a month or a year, but for a life-time. The wonderful elasticity and adhesiveness of Texo ensures its permanence.

DESCRIPTIVE BOOKLET SENT POST FREE ON APPLICATION

Baxendale & Co., Ltd.

Miller Street, MANCHESTER

And at

LIVERPOOL - EDINBURGH - DUBLIN

An Artist-Architect.

The Muse of an Architect in active practice is sadly beset by materialistic details, and yet Inspiration, as all good Architects know, is an essential factor in the production of good work. The Profession therefore owes a great debt of gratitude to its Artists, who, unharassed by the limitations imposed by contracts and contractors, can live on the Heights, recording for valley-dwellers the Vision there vouchsafed them.

Such an artist is William Walcot. In Etching and Watercolour he expresses the spirit of buildings of every age, and his work is a treasury of stimulating suggestion to the Practising Architect of to-day.

Many of the finest examples are magnificently reproduced in a volume published by this House. Artistically invaluable, educationally essential as it is, no Architect or Architectural student who has once looked within its pages will rest content until he has it for his own.

THE ARCHITECTURAL WATER COLOURS AND ETCHINGS OF WILLIAM WALCOT,

PRICE, £3 3s. 0d.

Technical Journals, Limited,
27, Tothill Street, S.W.

CEMENT

FOR
PERFECT CONCRETE
use the brands of
PORTLAND CEMENT

manufactured by

THE ASSOCIATED PORTLAND CEMENT MANUFACTURERS, LIMITED.

THE BRITISH PORTLAND CEMENT MANUFACTURERS, LIMITED.

MARTIN EARLE & COMPANY, LIMITED.

THE WOULDHAM CEMENT COMPANY, LIMITED.

'FERROCRETE'
Specially prepared for concrete specialists.

Cement Manufacture.
STEAM NAVVY AT WORK
CHALK DIGGING

lephone
ENUE, 5960
10 Lines

Correspondence to be addressed to the Selling Organisation
The CEMENT MARKETING COMPANY
LIMITED
8, LLOYDS AVENUE, LONDON, E.C. 3.

Telegrams
PORTLAND, FEN,
— LONDON —

F. DE JONG & Co LTD

DECORATORS
MODELLERS & MANUFACTURERS OF ORNAMENTAL FIBROUS PLASTER AND CARTON PIERRE

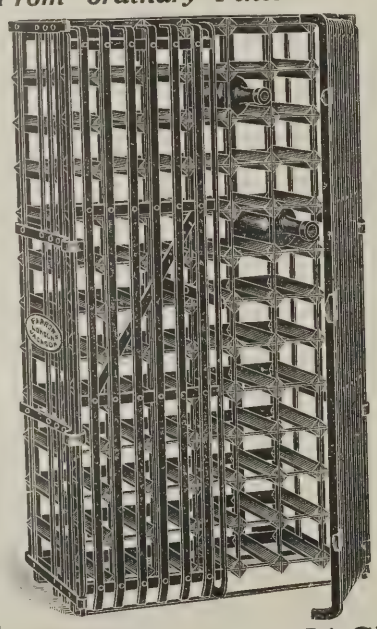
CATALOGUES ON APPLICATION.

OFFICES & WORKS:
84, ALBERT STREET, CAMDEN TOWN, N.W.1.

TELEGRAMS—DEJONGOLI, NORWEST, LONDON. *TEL.—NORTH 442*

"COMBINATION"
WINE BINS

Wood Bottle Rests and Iron Framing.
Adapted for all Bottles.
From ordinary Pints to Champagne Quarts.



Made to order to fit any space and may be provided with doors as shown.

Fixing can be done by an ordinary workman, but when desired F. & J. Ltd. will undertake it in Town or Country.

Estimates Furnished.

FARROW & JACKSON, LTD.
By Appointment to H.M. King George.
16, Great Tower Street E.C.3, and 8, Haymarket, S.W.1., London.

VENUS

17 degrees Blacklead
6B (*Softest*) to 9H (*Hardest*)

For Architects & Builders

Of all Stationers & Drawing Office Suppliers
6d. each, 5/8 per doz.

PENCILS

"VENUS" Lower Clapton Road E 5

Padded Rooms

Specialists:
Pocock Brothers,
235,
Southwark
Bridge Road,
London, S.E.1.

Specialists in
HEATING
all classes of buildings by
HOT WATER

PLANS AND ESTIMATES PREPARED.
Illustrated Lists Free on Application.

MESSENGER & CO., LTD., Horticultural Builde and Heating Engine
LOUGHBOROUGH, LEICESTERSHIRE. London Office: 122, VICTORIA ST., S.

The Art of Architecture.

THE interests of an architect are not by any means limited to the practical details of construction and the technical matters that pertain thereto, planning and design, furnishing and equipment.

He is closely concerned with architecture as an art, and widens his knowledge and stimulates his imagination by a study of the classic examples of every age and country.

The architect realises that the kindred arts and crafts have an intimate relationship with his own, and painting and sculpture, furniture and decoration, craftsmanship in every form, come within his purview.

Magazines that include each and all of these subjects within their scope, and present them with all the authority that expert treatment and fine illustration can give, are a source of inspiration and enjoyment to professional men.

SUBSCRIPTION FORM.

The Architectural Review

Please send me the ARCHITECTURAL REVIEW for the year 1921 at the post free subscription rate of £1 14s. 6d.

Name .....

Address .....

.....

A Select List of Books f

The Art of E. A. Rickards. *(Just Published.)*

WITH A PERSONAL SKETCH BY MR. ARNOLD BENNETT.

The volume includes numerous reproductions in colour and monochrome of Architectural Drawing Designs, Illustrations, Caricatures and Sketches by one who has been generally recognised by t Profession as the foremost Architectural Draughtsman of his day, and also Appreciations and Not by Mr. H. V. Lanchester, F.R.I.B.A., and Mr. Amor Fenn.

Price Three Guineas net.

Architectural Water Colours & Etchings of W. Walco

WITH AN INTRODUCTION BY SIR REGINALD BLOMFIELD, R.A.

Over sixty Reproductions of Etchings and Water Colours, six of the latter being in colour, a contributions by W. R. Lethaby, Dr. Thomas Ashby, Malcolm C. Salaman, W. G. Newt Max Judge, and others.

SOME PRESS OPINIONS.

"Mr. Walcot's plates are magnificent fantasies in which he improvises on architectural themes w the daring of a Bernini or Reinhardt . . One of the most notable books of the season."—*Morning P*

"The artist possesses with all his learning a remarkable lightness of hand, a skill in suggestion illusion."—*The Times.*

"He teaches us the true meaning of the Roman spirit, more particularly in architecture. . . A f series of reproductions."—*Observer.*

"There is a mastery about his power to choose and fling on to paper the very pigment needed bring magic to his work. The reproductions in the book are as good as can be."—*The Architectural Revi*

Price Three Guineas net.

Small Houses of the Late Georgian Period.

BY STANLEY C. RAMSEY, F.R.I.B.A.

This book contains over a hundred illustrations of selected examples of small houses, both town a country, all taken under the direct supervision of the author, who has written an illuminating stud the whole period. Apart from the immediate utility as a rich mine of suggestions for modern hou this book is of distinct educational value.

SOME PRESS OPINIONS.

"Georgian Houses, correct in every respect in design, and planned to meet the domestic and social ne of the class for which they were provided, afford the most valuable suggestion for a widespread applica in low-cost housing. The present is most opportune for a publication of this sort."—*The American Arch*

"In producing this book Mr. Ramsey is doing good service to the cause of modern domestic architec The plates are a delight to look at, and offer a fund of suggestions for modern houses."—*Country Life.*

"We congratulate the author on this work, which has a practical value at the present time, apart f its artistic interest."—*The Builder.*

Price One Guinea net.

Recent English Domestic Architecture.

EDITED BY MERVYN E. MACARTNEY, B.A., F.S.A., F.R.I.B.A.

The volumes deal with choice examples of Domestic Architecture by architects of established reputa for this class of work. Plans and descriptive particulars accompany the photographic views, and volumes embrace not only general exterior and interior views, but also details of decorative w in the houses illustrated.

Three Vols. Price Twelve and Sixpence each net. Postage 1/6 on the three vols. inland.

TECHNICAL JOURNALS LIMITED, 2

Architects and Art Lovers

Chronological History of British Architecture.

The greatest achievements in British architecture are presented as a *coup d'œil* in this attractive volume Fully illustrated, with unique and interesting pictures of the different period buildings.

CONTENTS.

Section I. Summary of English Mediæval Architecture (1050-1550). By Edward S. Prior, M.A., F.S.A., F.R.I.B.A.
Section II. Summary of Early Renaissance Architecture (1516-1650). By J. Alfred Gotch, F.S.A., F.R.I.B.A
Section III. Summary of Later Renaissance Architecture. By Mervyn E. Macartney, B.A., F.S.A., F.R.I.B.A
Section IV. Interesting Examples of Work by Living Architects.
Section V. Principal Architects of the English Later Renaissance, and their chief authenticated and reputed works (with dates).

Price Fifteen and Sixpence net. Postage Ninepence inland

Garden City Houses & Domestic Interior Details.

This volume comprises a number of carefully selected examples of the work of some of the most skilful Architects who, being specialists in domestic work, have turned their attention to the problem of the small but well-designed house that shall accord with the changed social conditions of to-day. This work is invaluable to all who are interested in present-day housing problems.

Price Seven and Sixpence net. Postage Ninepence inland.

Houses for Workers.

To-day's most pressing need is the provision of suitable houses in town and country. Moreover, the need for so many thousands of new houses affords an unexampled opportunity for the application of town-planning principles. It is accepted that housing schemes should form part of some co-ordinated scheme of lay-out. What can be achieved is well shown in this volume, which includes sections dealing with houses of the following types :—

(1) Rural cottages and houses for workmen generally.
(2) A colony of houses for munition workers, as carried out by the Government in connection with Woolwich Arsenal.
(3) Houses and flats on a town area, as carried out in conformity to a scheme embracing shop premises, and a church, on the Kennington Estate of the Duchy of Cornwall.

Price Seven and Sixpence net. Postage Ninepence inland.

Practical Works for Architects.

THE PRACTICAL EXEMPLAR OF ARCHITECTURE. Examples selected by Mervyn E. Macartney, B.A., F.S.A., F.R.I.B.A. Five portfolios (over 500 Plates).

Price One Guinea each net.

PRACTICAL NOTES FOR ARCHITECTURAL DRAUGHTSMEN. By A. W. S. Cross, M.A., F.R.I.B.A. and Alan E. Munby, M.A., F.R.I.B.A. 27 large Plates in portfolio.

Price One Guinea net.

CONCISE COSTING FOR HOUSING. Based on an improved system of Quantity Surveying, by T. Sumner-Smith, M.Q.S.A., F.I.Ar. With an Introduction by Raymond Unwin, F.R.I.B.A.

Price Five Shillings. Postage Sixpence inland.

HILL STREET, WESTMINSTER, S.W.1.

IN THE PRESS.

SPECIFICATION

1921

THE STANDARD WORK OF REFERENCE FOR ARCHITECTS, SURVEYORS, & CIVIL ENGINEERS

Edited by

FREDK. CHATTERTON, F.R.I.B.A.

Specification is as necessary to the Architect as an encyclopædia is to the man of letters. It comprises in a single volume a vast amount of technical information. Moreover, the information is exactly what the Architect requires when he is preparing his specification.

The Special Articles which will appear in the 1921 issue are:

ECONOMIC COTTAGE BUILDING. (Illustrated.) By Percy J. Waldram, F.S.I.

HINTS ON SPECIFICATION WRITING. (Illustrated.) By T. Sumner-Smith, M.Q.S.A.

ARCHITECTURAL ACOUSTICS. (Illustrated.) By H. Bagenal, A.R.I.B.A.

THE DESIGN AND CONSTRUCTION OF STRONG ROOMS. (Illustrated.)

CAUSE AND PREVENTION OF DRY ROT IN TIMBER. (Illustrated.)

THE PROGRESSIVE APPLICATION OF GAS IN THE MODERN HOME. By H. H. Creasey.

NEW SECTIONS for 1921 include "PROPRIETARY MATERIALS FOR RAPID BUILDING CONSTRUCTION," and "GAS ENGINEER." A particularly full and complete "TRADE NAME INDEX" will also be a valuable additional feature of this Issue.

Every edition for the last seven years has been completely sold out, and the Publishers would suggest that intending purchasers should place their orders as early as possible.

ORDER FORM. NEW ISSUE FOR 1921.

SPECIFICATION

Price 10/6 Nett. Postage 1/- extra.

Please reserve me .....*copies of the New Issue* (1921) *of* SPECIFICATION.

Name.....

Address.....

.....

This Order Form can be sent to your Newsagent or direct to

TECHNICAL JOURNALS, LTD., 27-29, TOTHILL STREET, WESTMINSTER, S.W.1.

SIEGWART FLOORS
for
SPEEDY ERECTION

MINIMUM LABOUR AT SITE

NO CENTERING

Part of first floor of one of a series of Buildings at the National Physical Laboratory, Teddington.—SIEGWART BEAMS IN POSITION FOR GROUTING TOGETHER.

PERMANENT
ECONOMICAL
LIGHT
SOUNDPROOF
FIRE-RESISTING

SIEGWART FIREPROOF FLOOR CO., LTD.
231, STRAND — LONDON, W.C.2
Telephone: 4094 GERRARD *Telegrams: NOCENTRING, ESTRAND, LONDON*

We can now give immediate delivery of

Alligator Asbestos Cement

SLATES

RED
12″ × 12″
15¾″ × 15¾″

GREY
12″ × 12″
15¾″ × 15¾″
18″ × 18″
24″ × 24″

Asbestos Cement Sheets

FLAT AND CORRUGATED.
ALL STANDARD SIZES AND THICKNESSES.

Write now for Samples, Catalogue and Prices to—

BRITISH ROOFING COMPANY

"Premier House," 150, Southampton Row, London, W.C.1.

TELEPHONE—MUSEUM 5092.

The
A1 ENGRAVING Co. LTD

PHOTO-ENGRAVERS
DESIGNERS
A·1
BLOCKS
ELECTROTYPERS
ILLUSTRATORS

Studios & Works, 5, Tudor Street, London, E.C.

TELEPHONES:— CITY, 8737 & 8606
TELEGRAMS:— "AWONENCO," LONDON.

The Golden Pump for
Bulk Storage
of
PRATT'S
"PERFECTION"
SPIRIT
ensures
Service Efficiency
in every Garage.
Pratt's
Pratt's
For full particulars apply to—
ANGLO-AMERICAN OIL CO., LTD
Pump and Tank Dept.
36, QUEEN ANNE'S GATE, LONDON, S.W.1.
A
SIGN
OF
SERVICE

Economical Designs and Plans for all Classes of Steelwork submitted at Short Notice.

BRITISH STANDARD SECTIONS OF

JOISTS, CHANNELS, TEES, ANGLES, PLATES, ETC

AND ALL

CONSTRUCTIONAL STEELWORK

CAN BE DELIVERED FROM LONDON STOCK.

WE WOULD LIKE TO SEND YOU PARTICULARS OF OUR WORK.

Address all Communications to

DREW-BEAR, PERKS & Co., Ltd.,

110, CANNON STREET, LONDON, E.C.

Telephone: 12110 CENTRAL.
Telegrams: "BEARBIND, LONDON."

Works:

BATTERSEA STEEL WORKS,
WELLINGTON ROAD, S.W.

Telegrams: "MECHANURGY."
Telephone: No. 920 WESTERN.

F.A.B.

FIRERESISTING FLOORS & ROOFS

GRANITIC FINISH

WOOD BLOCKS

MAXIMUM STRENGTH MINIMUM COST

ROCK ASPHALTE

STEEL WORKS OAK ST GORTON

CONSTRUCTIONAL STEELWORK.

SAW MILLS SCHOOL ST. GORTON

HOMAN AND RODGERS ENGINEERS MARSDEN ST MANCHESTER.

Telegraphic Address: NAMOH, MANCHESTER. Telephone No 637.

Some of the Buildings at present in Course of Construction by HOMAN & RODGERS.

CINEMATOGRAPH THEATRES:	Star Kinema, Preston; Imperial, Burnley; Pentridge, Burnley; Central, Harroga Stocksbridge, near Sheffield.
MILLS:	Hosiery Mills, Belper; Reeling Rooms, Eckersleys', Wigan; Asphalte Flat Ro Canteen, Messrs. Eckersleys', Wigan; Macintosh's Rubber Factory, Manches
BANKS:	Lloyds Bank, Stoke-on-Trent.
SCHOOLS:	Grammar School, Farnworth, near Manchester; Elementary School, Whitef near Manchester.
POTTERS' SHOPS:	Doulton's, Burslem; Adams & Sons', Tunstall.
INFIRMARIES:	"Drymma," Skewen, near Neath; Nurses' Hostel, Carmarthen.

PORTLAND STONE

Architects : Messrs. Henry Tanner.

NEW PREMISES FOR MESSRS. DICKINS & JONES, REGENT STREET.

Builders : Messrs. Higgs & Hill Ltd.

The PORTLAND STONE for this Building was Worked by

THE

SOUTH WESTERN STONE CO.,

NEW ROAD, BATTERSEA, S.W.8.

The Call for HOT WATER

is continuous day in—day out. There is hardly a task around the household which does not require plenty of hot water. Fortunate is the home where there is an endless supply. The Ruud is by far the simplest and cheapest method of obtaining Hot Water. Just a turn of the tap in any room, anywhere, at any time and hot water is immediately available.

RUUD AUTOMATIC GAS WATER HEATER

The Ruud Automatic Hot Water System costs only a penny for 20 gallons; compare this with the old-fashioned kitchen stove methods. The home that is *really* a home has its RUUD—the coal-less hot water system that satisfies the requirements of the Ministry of Health and effects a real economy in the household budget.

Let us send you full particulars of this modern labour and cost saver.

GENERAL AGENTS:

British & Overseas Products Corporation Ltd., 108, 109, 250, Bute Street, Cardiff.

—or the following Sub-Agents.

District Agents.

London. Messrs. W. J. Davis Engineering Co. Ltd., 162, Upper Kennington Lane, S.E.11.

Leeds. Messrs. Vincent Roberts & Co., Charmouth Street.

Manchester. Messrs. Saunders & Taylor, Lower Moseley Street.

Dundee. Mr. T. F. Fimister, 55, South Tay Street.

Paisley.—Messrs. James Boyd & Sons, Heating Engineers.

Applications for Agencies invited from districts not already covered.

Patentees and Manufacturers:

Ruud Manufacturing Co., 115, Broadway, New York

DOLOMENT

Jointless Flooring

And Wall-Covering Material

For High Class Buildings

Guaranteed not to bulge or crack

Fireproof
Impervious
Hygienic
Resilient
Durable

Write for Catalogue and Sample

THE BRITISH DOLOMENT Co. LTD
167 Strand, London, W.C. 2

Alpha-Flat

A Dead Flat Paint for Walls.

Alphaline Enamel

for Glass-like Surfaces.

Samples and Particulars free on request from the Manufacturers:

COLTHURST & HARDING

LIMITED,

11, Queen Victoria Street, London, E.C.4,

and Temple Gate, Bristol.

Established more than 60 years.

Specify a

BVC VACUUM CLEANING INSTALLATION

in your next building

The Modern Cleaning System for Residences and Hotels, Clubs and Office Buildings, etc.

HYGIENIC DUSTLESS THOROUGH

The British Vacuum Cleaner Co., Ltd.,
—Dept. S32,—
Parson's Green Lane, London, S.W.6

Lattice & Keedon System

Reinforced Concrete Construction

Extension to the Irwell Gum and Starch Works

Architect: H. LORD, Esq.

CARRIED out under the Keedon System of Reinforced Concrete Construction, extensions to the Irwell Gum and Starch Works afford another example of the efficiency and economy of this form of construction.

An interesting feature of the structure is the small building in the foreground which is cantilevered over the river.

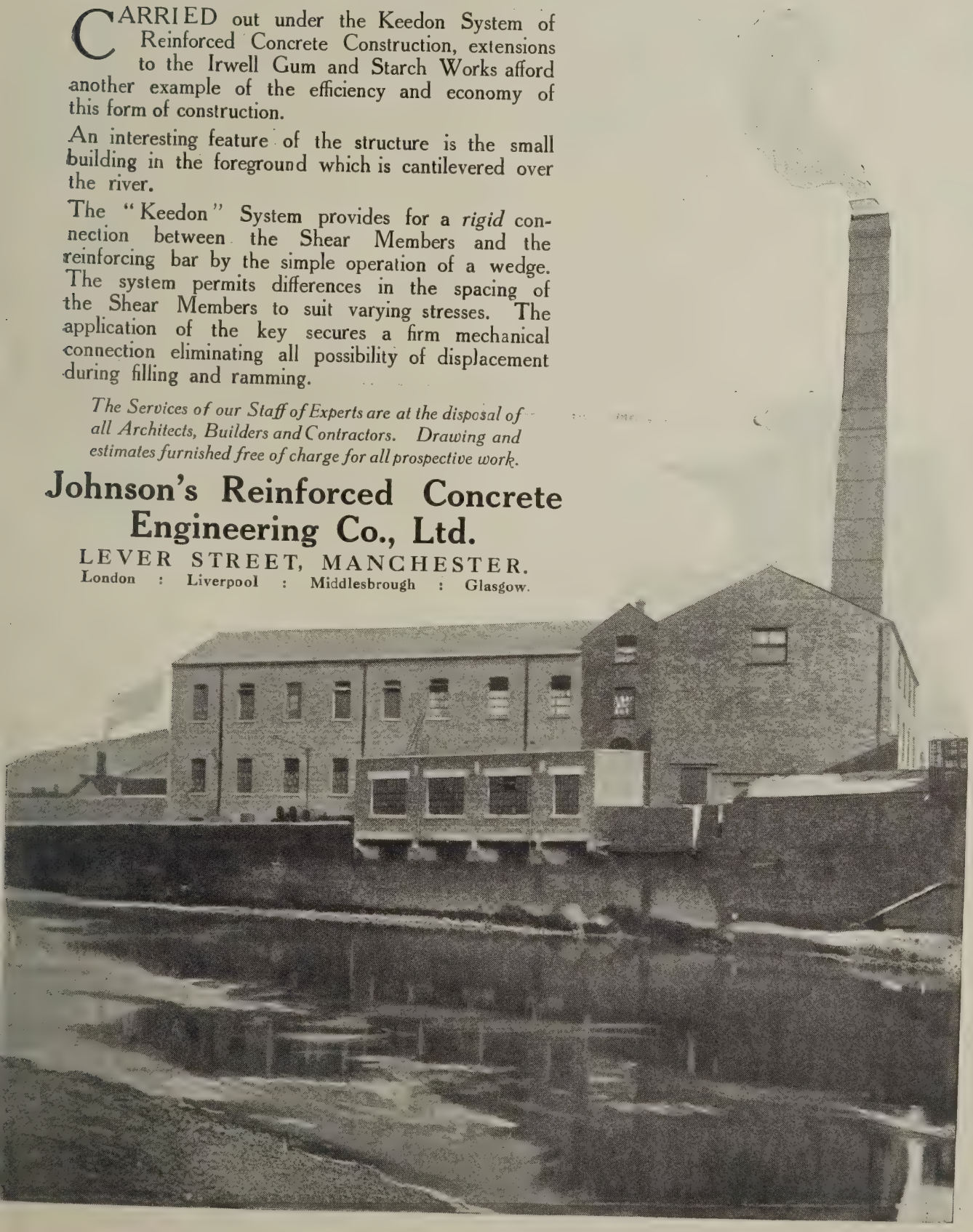
The "Keedon" System provides for a *rigid* connection between the Shear Members and the reinforcing bar by the simple operation of a wedge. The system permits differences in the spacing of the Shear Members to suit varying stresses. The application of the key secures a firm mechanical connection eliminating all possibility of displacement during filling and ramming.

The Services of our Staff of Experts are at the disposal of all Architects, Builders and Contractors. Drawing and estimates furnished free of charge for all prospective work.

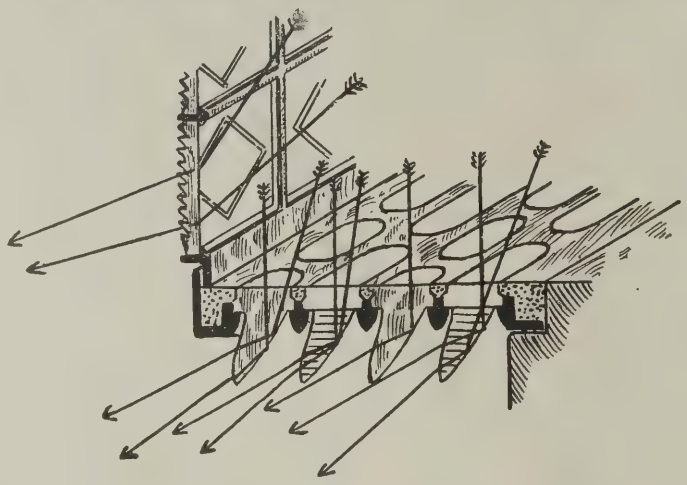
Johnson's Reinforced Concrete Engineering Co., Ltd.

LEVER STREET, MANCHESTER.

London : Liverpool : Middlesbrough : Glasgow.



Luxfer Pavement Lights



Stallboard Lights
Floor Lights
Cellar Flaps

The Luxfer Co. Manufacture all constructions through which *Daylight* is admitted into a Building—Dome Lights and Ceiling Lights, Roof Lights, Lantern Lights, Skylights, Leaded Lights, Metal Casements; Prismatic, Fire-resisting, Ornamental and Roof Glazings.

THE BRITISH LUXFER PRISM SYND., LTD.

TELEPHONE: 1127 Clerkenwell. 16, HILL STREET, FINSBURY, LONDON, E.C. *TELEGRAMS:* 'Luxfer, Finsquare, Londo

ART METAL CONSTRUCTION CO LTD

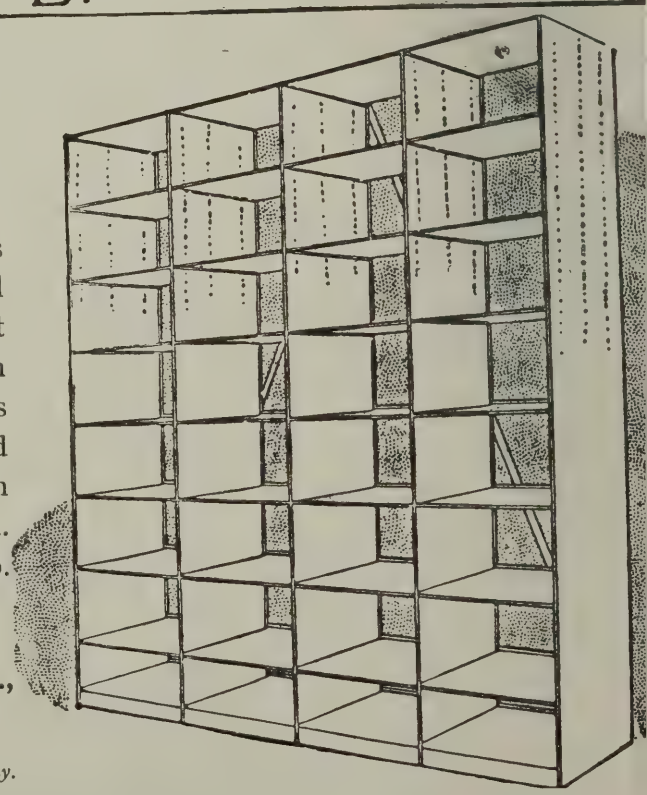
RONEO BUILDING 586 HOLBORN E.C

ASSOCIATED WITH RONEO LTD

Propr of St PANCRAS IRONWORK

Steel Shelving will not warp or crack.

ART Metal Steel Shelving is as durable as the strongest modern building, and will bear a far heavier weight than wood without the least signs of warping or cracking. In appearance, too, it is far superior, and is fire-resisting and more sanitary. The standard finish is olive green stoved enamel, but it can be supplied in any other colour if specified. The special enamel used will not crack or chip.



Plans, Estimates and full particulars on request.

ART METAL CONSTRUCTION CO., LTD.,
7, HOLBORN, LONDON, E.C.1

'Phone: Holborn 6622. *Works: Romford and Holloway.*

THE STONE PRESERVATION CO. LTD.

Address:
9a, LITTLE JAMES STREET,
GRAY'S INN ROAD, W.C.1

RESTORERS and PRESERVERS of MODERN and HISTORICAL BUILDINGS

LONDON HIPPODROME

Telephone:
MUSEUM 6632

40 YEARS' UNIQUE AND EXTENSIVE EXPERIENCE

REFERENCES TO LEADING ARCHITECTS

ESTIMATES SUBMITTED

Full Particulars on Application

BUILDINGS STEAM CLEANED

AND PRESERVED BY AN IMPROVED PROCESS

THE STEAM CLEANING CORPORATION

'Phone: MUSEUM 6632

9a LITTLE JAMES STREET, GRAY'S INN ROAD, LONDON, W.C.1

COATOSTONE

A COAT OF STONE WHICH HARDENS LIKE STONE

APPLIED WITH A BRUSH.

ANY PAINTER CAN USE IT.

Made in 2 Grades, *i.e.*, for "INTERNAL" and "EXTERNAL" USE.

WATERPROOF

Indistinguishable from Solid Masonry when lined out in blocks.

A FRENCH STUC EFFECT AT A QUARTER THE COST.

USUAL MIXINGS ARE PORTLAND AND BATH but Colours can be supplied to Customers' Patterns.

Applied direct on Concrete, Brick, Tile, Asbestos, Wood, etc. In fact, COATOSTONE will adhere to almost anything and everything.

COATOSOL

A Colorless, Transparent, Waterproofing Solution which does not conceal the grain of the stone nor change the colour; it soaks in and hardens the face and prolongs the life of the Fabric. Also suitable for Brickwork, Asbestos, Unglazed Terra Cotta, etc., etc,
One coat better than two of other makes.

COATO-ROUGH-CAST

Applied with a brush direct on Concrete, Brick, Tile, etc.
No cement rendering required.
Great Saving in Time and Labour.
Unsurpassed as an artistic and weather resisting external coating for all classes of buildings.

"COATO-GLOSS" AND OTHER SPECIALITIES.

ENTIRELY BRITISH. *MADE IN ENGLAND.*

Full particulars and price lists on application. *Enquiries invited.*

Telegrams: COATOSTONE, PHONE, LONDON.
Telephone: MUSEUM 6632

THE COATOSTONE DECN. & MFG. CO.,
9a Little James St., Gray's Inn Rd., London, W.C.1

Depot and Factory:
10,12 NORTH MEWS, W.C.1

Vickers Limited.

MACHINES
FOR ALL CONCRETE WORK.

Make your own

BRICKS, SLABS & ROOFING TILES

ON THE SITE AND

SAVE MONEY.

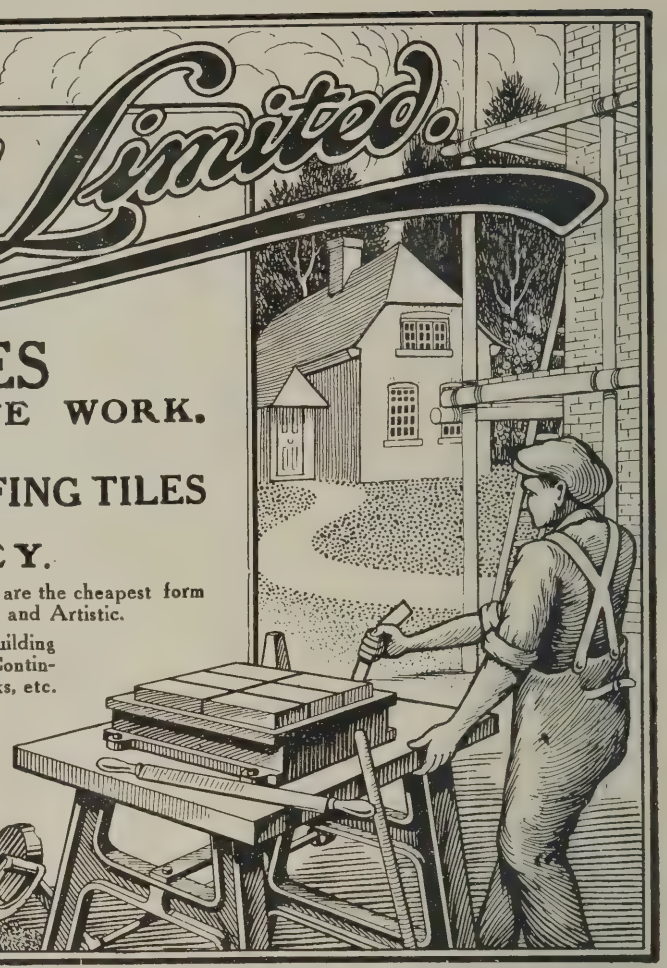
Concrete Tiles as made on the Vickers Machines are the cheapest form of Roofing Extant, absolutely waterproof, Light and Artistic.

The Portable Concrete Brick Machine makes Building Bricks, plain or coloured, to standard British or Continental Dimensions, also Moulded Bricks. Arch Bricks, etc.

For particulars apply to · BUILDING DEPT.,

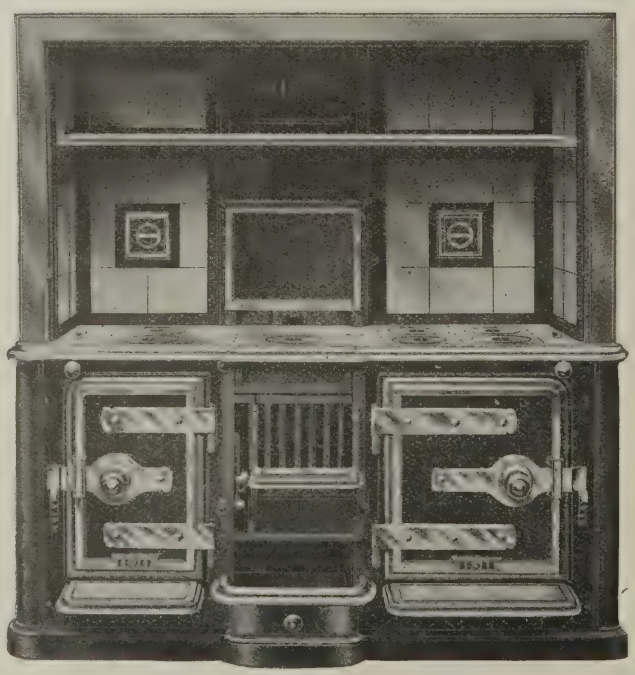
VICKERS HOUSE,

BROADWAY, LONDON, S.W.1



DEPÔTS { MANCHESTER: Cathedral House, Long Millgate (Temporary Address). NEWCASTLE: Commercial Union Buildings, Pilgrim Street. BIRMINGHAM: Vickers House, Loveday St. GLASGOW: Vickers House, 247, West George St. BELFAST: 26A, Arthur Street. NORWICH: 16, White Lion Street. LEEDS: Greek Street Chambers, Park Row. BRISTOL: 55, Park Street.

WE HAVE THE GOODS IN STOCK



THE "COOKWELL" RANGE.

Our Show Galleries contain a Splendid Selection of

FIRE-GRATES and MANTELS
(Period Designs a Speciality)

ANTHRACITE STOVES
AND
"BUNHILL" FIRE-PLACES
In all the latest Art shades.

QUADRANT and other RANGES

SANITARY APPLIANCES

Also Makers of

BOYD'S HYGIASTIC SCHOOL GRATES.

O'BRIEN, THOMAS & CO.
in association with
YATES, HAYWOOD & CO.

Offices and Showrooms: 17 & 18, UPPER THAMES ST., E.C.
(A few minutes from St. Paul's Station.)
Foundry: - - - EFFINGHAM WORKS, ROTHERHAM

ASBESTONE ROOFING TILES

BRITISH MADE by BRITISH LABOUR.

Weight per Square, 220 lbs.

IMMEDIATE DELIVERY FROM STOCK GUARANTEED.

Made by BRITISH URALITE CO. (1908) Ltd.

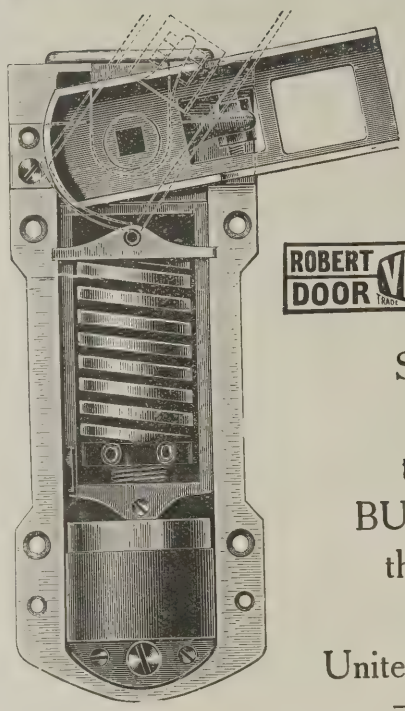
8, OLD JEWRY, LONDON, E.C.

Telegrams: "Uranicos, London."

Works: HIGHAM, KENT (Covering 13 Acres)

Telephone: Central 1783.

ROBERT ADAMS,

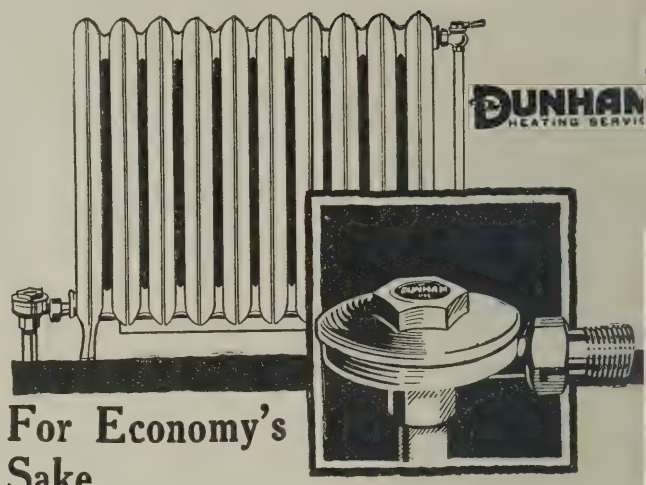


With the Check.

ROBERT ADAMS DOOR VICTOR SPRINGS

Specified for the best BUILDINGS throughout the United Kingdom.

3 & 5, EMERALD ST., HOLBORN, W.C.



For Economy's Sake.

If you want to heat buildings efficiently and economically, make a point of specifying Dunham Heating Specialities, then the various rooms can be maintained at the right temperature, radiators will be silent—hammering is a sure sign of heat (and fuel) being wasted—and the coal consumption will be the irreducible minimum.

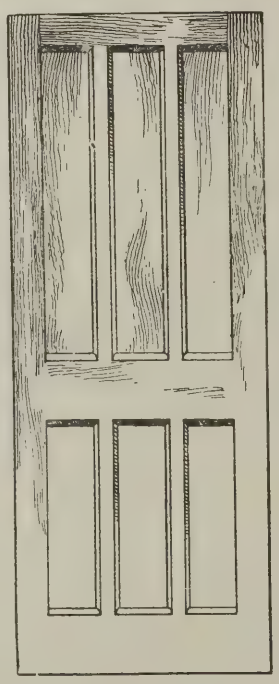
DUNHAM
Heating Specialities

Phone for our Engineer to call, or write for full particulars. The average number of buildings Dunhamised every month is over 200

C. A. DUNHAM CO., LIMITED,
233a, Regent Street, London, S.W.1.
Telephone: Mayfair 2634.

IMMEDIATE DELIVERY FROM STOCKS AT LONDON, BIRMINGHAM, LIVERPOOL, GLASGOW

FIRST CLASS JOINERY



Doors and Window-frames, made by skilled workmen from well-seasoned timber and perfect in every detail can be delivered from stock immediately, in various sizes and designs.

This Joinery, of first-class workmanship, is made at our Norwich Works on the mass-production system, enabling us to offer it at the very lowest competitive prices. State your requirements fully. Orders to Architects' special specifications delivered at short notice.

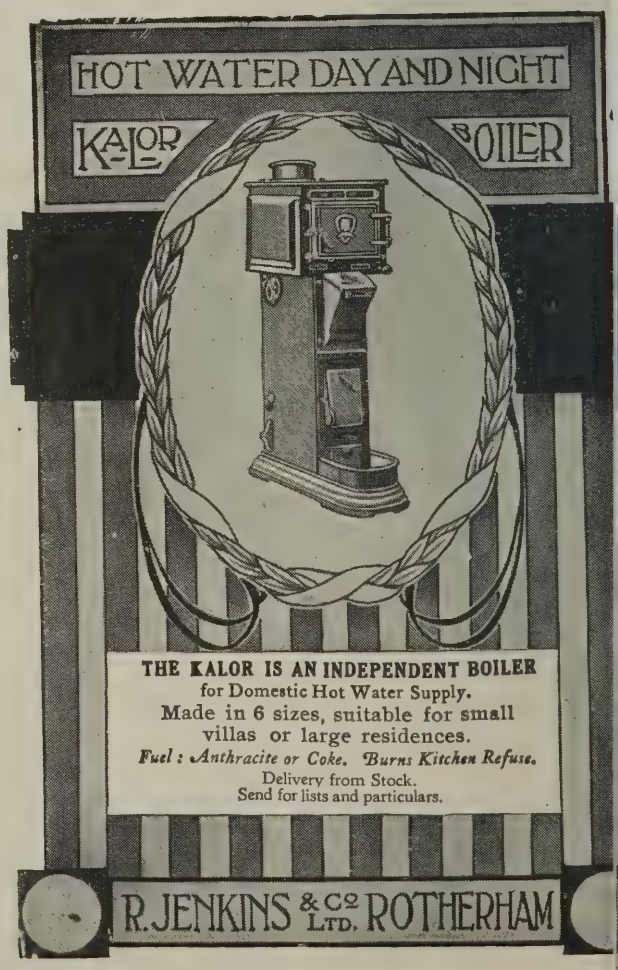
Boulton & Paul specialise in wooden structures of every description—Bungalows — Motor-Car Houses — Cycle Houses — Reading Rooms —Churches—Institutes—Post Houses—Summer Houses—Hospitals—Sanatoria—Revolving Shelters—Stables—Kennels, etc., etc.

Boulton & Paul Ltd.

Telegrams: Boulton, Norwich
Telephone: Norwich 851

Chief Office & Works NORWICH

London Office: 135-7 Queen Victoria St. E.C.4
Telegrams: Boutique, Central, London
Telephone: Central 4642



ESTABLISHED 1833

LION BRAND.
The HALL-MARK
of
QUALITY.

Government Contractors
for over 75 years.

TRADE MARK.

LION BRAND.
The HALL-MARK
of
QUALITY.

McNEILL'S
FAMOUS FELTS
AND
PURE BITUMEN DAMP-COURSES
FOR HOUSING SCHEMES

Manufactured to comply
with the requirements of
The MINISTRY OF HEALTH

FOR ROOFS—
FLAT,
CURVED, or
PITCHED.

FOR LINING—
ROOFS,
WALLS,
RESERVOIRS,
Etc.

Highest Grade
BITUMEN ROOFINGS.
LION ROOFING.
AJAX "
ACE "

TARRED AND SANDED
MASTIC ROOFING,
Nos. 1, 2, & 3, 15 yds. x 1 yd.
Economical. Efficient.

. McNEILL & CO. LTD.,
SOUTH PLACE,
INSBURY PAVEMENT,
ONDON, E.C.2.

Original patentees and actual manufacturers of ROOFING FELT and SLAGBESTOS, the perfected form of McNeill's Patent Slagwool, Etc.

Telephone: Clerkenwell 1643. *Telegrams: "Eyeball, London."*

Works:—
LONDON,
STOCKTON-on-TEES,
KIRKINTILLOCH, N.B.

PHŒNIX
Assurance Company, Limited.

Head Offices:—Phœnix House, King William Street, LONDON, E.C.4.

Total Assets:
£20,000,000

ESTABLISHED 1782

Claims Paid:
£100,000,000

Chairman - - - - - SIR GERALD H. RYAN, Bart.

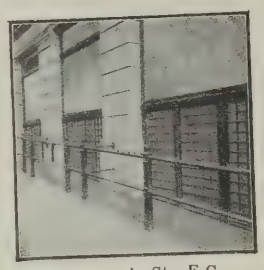
FIRE - LIFE - ACCIDENT - MARINE

Loss of Profits following Fire, Workmen's Compensation,
Fidelity Guarantee, Burglary, Trustee and Executor, Etc.

ANNUITIES GRANTED ON FAVOURABLE TERMS.

General Manager - - - - R. Y. SKETCH.

Haywards Lights AND BUILDING SPECIALITIES

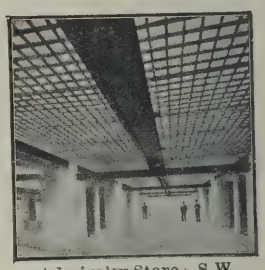

At Bouverie St., E.C.

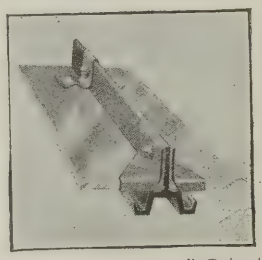
Haywards are the oldest and best known Experts in Daylight Lighting. They specialise in all forms of Glazings.

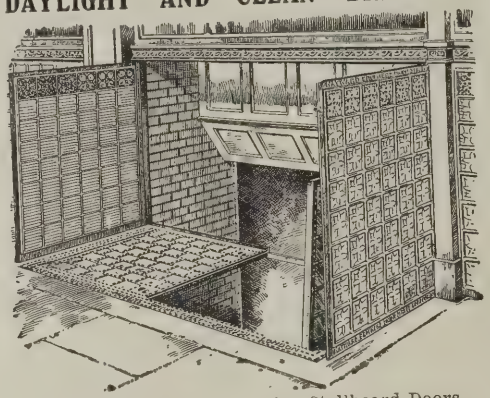
23 MEDALS AWARDED

And also in Fireproof Building Specialities. Consult their Experts and Save money and trouble. Secure best results.

HAVE DAYLIGHT AND CLEAN BRIGHT PLACES.


Admiralty Stores, S.W.


Hayward's "Reform" Patent Puttyless Roof Glazing.


Hayward's Outward-Opening Stallboard Doors and Pavement Flaps with Gutter Frame.

"Reform" Roof at Daimler's Motor Works, Coventry. (23,000 ft. super.)

HAYWARDS LTD., ENGINEERS & IRONFOUNDERS
UNION ST., BOROUGH, LONDON, S.E.
Telephones: Hop 3642 (3 lines). Telegrams: "Hayward Brothers, London."

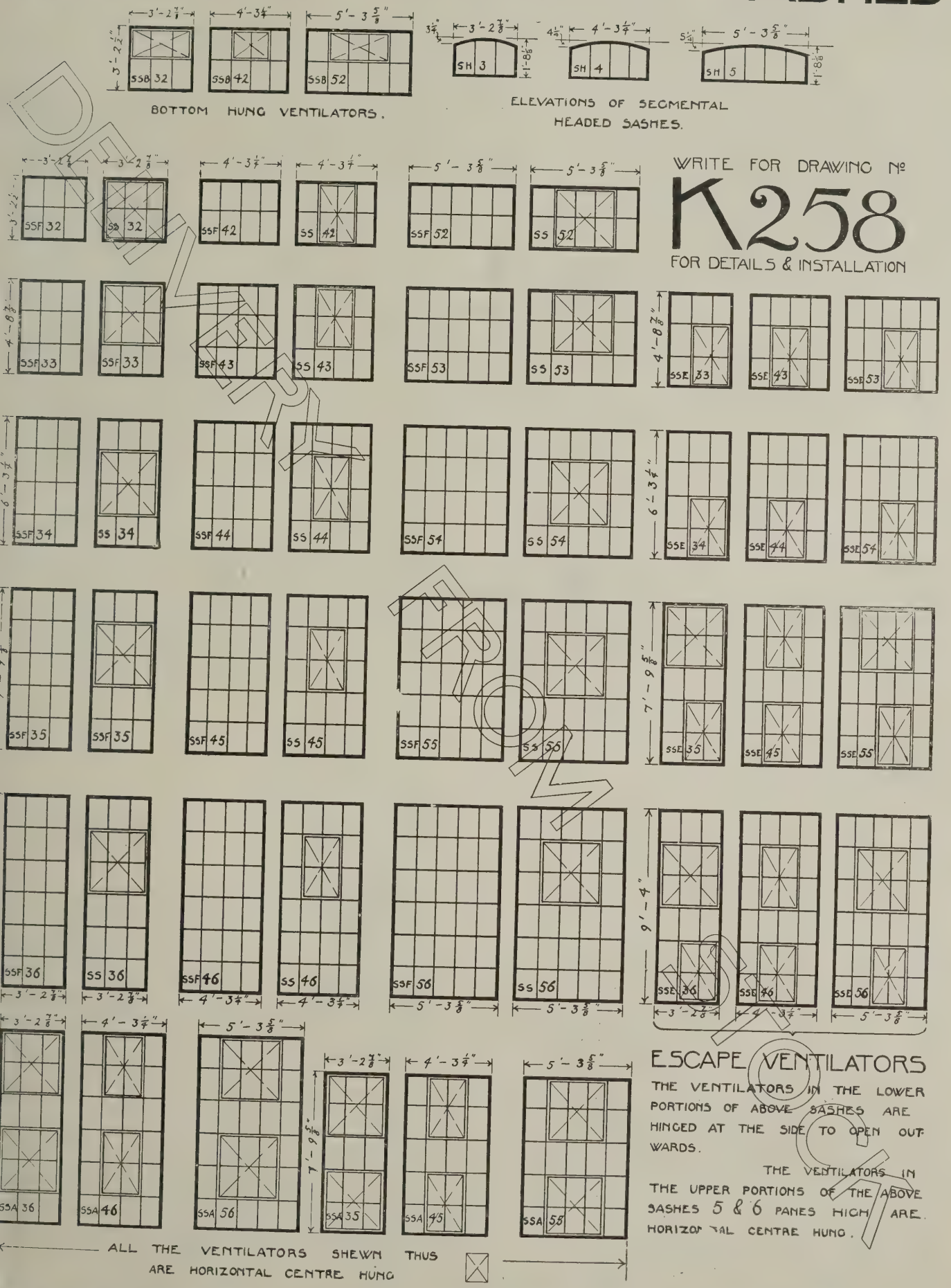
Branches and Agents at
Manchester, Liverpool, Leeds, Birmingham, Cambridge, Cardiff, Newcastle, Plymouth, Glasgow, Aberdeen, Belfast and Dublin.

The ART REPRODUCTION Co LTD.

3 & 4 PLOUGH COURT · FETTER LANE
LONDON, E.C. 4.
TELEPHONE: HOLBORN 5597 & 5598

FOR PHOTO ENGRAVING of EVERY DESCRIPTION
FOR QUALITY—SEE THE BLOCKS IN
THE ARCHITECTURAL REVIEW AND THE ARCHITECTS' JOURNAL

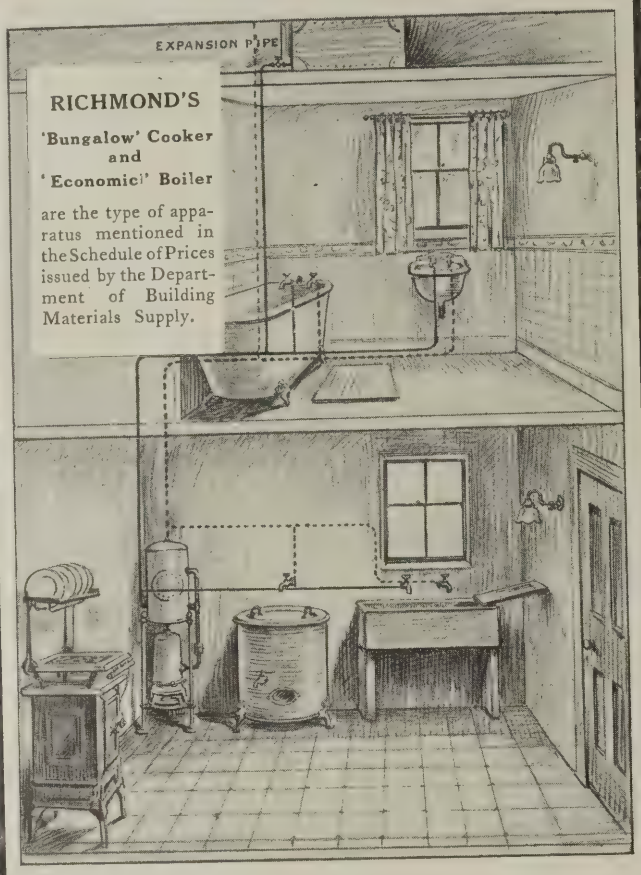
FENESTRA STANDARD SASHES



CRITTALL BRAINTREE

GAS

for the Housing Schemes



The "Bungalow" Cooker, "Ironclad" hot water Circulator and "Economic" Boiler suitably fitted in a modern scullery

"RICHMOND"

GAS APPARATUS installed in all new houses, and National Housing Schemes, ensures the most practical, cleanly and convenient means of cooking, heating and water-heating.

"Richmond" Gas Cookers, Hot Water Circulators, Wash Boilers, Sink Boilers, Gasfires, etc., are designed for, and are already installed in many thousands of modern labour-saving homes.

"Richmond" Gas-heated equipment may be **SEEN IN OPERATION** daily, at our London Showrooms, **164-172 Queen Victoria St.** Call and inspect the remarkable durability and efficiency of modern Gas Apparatus.

THE RICHMOND

GAS STOVE & METER CO. LTD.

General Offices & Works: Academy Street, Warrington.

Dignity

Everyone recognises that something beyond mere covering is essential for the walls and ceilings of the modern hous . The decoration of these is receiving the thought and consideration of Architects, and with many the problem is to reconcile a dignified and pleasing finish with cost.

The beautiful effects that may be obtained by the use of FIBERLIC wallboard and moulding strips are unlimited, while the cost compares very favourably with the lath and plaster methods of old.

FIBERLIC is a Root Fibre Board, and is by actual test over 50% stronger and stiffer than any other wallboard. It neither warps, cracks nor splits and is fire-resisting, sound, moisture and vermin-proof.

A sample (guaranteed cut from stock sheets) and full particulars will be sent free to all interested.

MACANDREWS & FORBES LTD

65, South Molton Street, London, W.1

Telephone: **Mayfair 6996.** ***Telegrams:*** **Macforbes, Wesdo, London.**

The Root Fibreboard
Fiberlic
For Walls & Ceilings

The Root Fibreboard
Fiberlic
For Walls & Ceilings

BRITISH FIBROCEMENT WORKS LTD.

CONTRACTORS TO THE WAR OFFICE AND ADMIRALTY

ASBESTOS-CEMENT MANUFACTURERS

CORRUGATED SHEETS

Sizes—4ft. to 10ft.

Width—27 inches.

FIRE RESISTING · WEATHER PROOF · FIBRENT · LIGHT · EVERLASTING · REGISTERED TRADE MARK

CURVED SHEETS TO ANY RADIUS

ROOFING TILES

FLAT SHEETS

(8 × 4′ 6′ × 3′ 4′ × 4′)

MANUFACTURED ONLY AT

ERITH, KENT.

HEAD OFFICE AND WORKS.

Telephone ERITH 89 (2 lines)

Manchester Office—
4, CORN EXCHANGE BUILDINGS, MANCHESTER.
Telephone CITY 7856

London Office—
22, LAURENCE POUNTNEY LANE, CANNON STREET, E.C.4
Telephone CITY 2329

Birmingham Office—
14, NEW STREET.
Telephone CENTRAL 7292

Also at GLASGOW, BRISTOL, CARDIFF, DUBLIN and BELFAST.

E. F. BLAKELEY & Co. (LIVERPOOL) LIMITED.

VAUXHALL IRONWORKS, BIRKENHEAD.

Contractors to H.M. Government. Established 1881.

Drill Hall, Royal Garrison Artillery, Lancaster.

STEEL AND IRON ROOFS

Principals. Lattice. Girders. Stanchions

Estimates Free.

Tel: "Corrugated, Birkenhead.
'Phone: 1568 Birkenhead.

We are in a position to undertake Galvanizing Work of all descriptions for the Trade.

Our works are equipped with the most modern and largest plant in the North of England, capable of an output of 300 tons a month. We have our own Railway Sidings, being in direct communication with N.E.R., and all goods are loaded direct into vans. Being situated on the sea-board shipments can be loaded from our own motor lorries, thus avoiding damage and delay.

Manufactures as follows:—
Seamless Steel Drawn Hollow-ware, Tanks, Cisterns, Cylinders, Oil and Paint Drums, Dust Bins, Baths, Buckets, etc., etc.

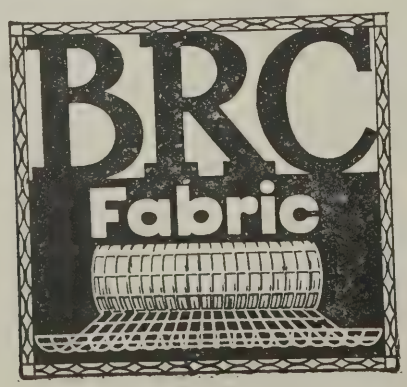
We have good stocks of open top Cisterns on hand for prompt delivery.

Sole Proprietors and Manufacturers of the "NATIONAL" Brand.

NATIONAL GALVANIZERS, LTD.

SUNDERLAND

'Phone, 1030. 'Grams. "National, Sunderland."
139, CANNON STREET, LONDON, E.C.4.
54, CORPORATION STREET, MANCHESTER.
Codes: A.B.C. 5th Edition.
Marconi International and Bentley's.



EMPIRE STONE.

NEW PREMISES FOR MESSRS. W. WEST & SONS, LTD.

ARCHITECTURAL STONE DRESSINGS.

STAIRCASES.

GRANOLITHIC WORK.

FENCE POSTS.

FOOTWAY PAVING.

REINFORCED CONCRETE CONSTRUCTION.

COAT OF ARMS CARVED OUT OF EMPIRE STONE.

EMPIRE STONE COMPANY, LTD.,

THANET HOUSE, 231, STRAND, LONDON, W.C.2.

AND

NARBOROUGH, LEICESTERSHIRE.
NARBOROUGH 3.

T. J McDOWELL,
Managing Director.
Phone GERRARD 8152.

VICTORIA SQUARE, BIRMINGHAM.
Phone BIRMINGHAM CENTRAL 7184.

INTERIOR WOODWORK
AND DECORATION
FOR THEATRES

W G. R SPRAGUE, Esq., *Architect.*

ST. Martin's Theatre, London, W.C. Columns, Balustrading, Panelling and Proscenium, etc., executed in African Walnut by us.

Plasterwork—Messrs. F. de Jong & Co., Ltd.

J. ELLIOTT & SONS READING LTD.

Telephone 436 & 437 Reading.
Telegrams: "Elliotson," Reading.

HEAD OFFICE & WORKS: READING.
ONLY LONDON ADDRESS: 18, HANOVER ST., W.

Branch Office:
116 PORTLAND STREET
MANCHESTER.

Mr. Berger made Fine Colours in London in 1760

NOTHING is safer for painting *new* plaster walls in durable and washable *flat* colours—all fast to light and lime—than "MATROIL" Its 31 colours include specials for school and housing work, and for *outside* use.

The Architects' Special Matroil Colour Folder is unique — costs nothing and entails no obligation. May we send you one?

Lewis Berger & Sons, Ltd.,
HOMERTON, LONDON, E.9.
Branches — Liverpool, Paris, Cape Town, Bombay, Calcutta, Shanghai, Sydney, Buenos Ayres.

Berger's

MATROIL

The Oil Paint you thin with water

For Drawings and Plans :—

WHATMAN

Genuine Hand Made

DRAWING PAPERS

UNRIVALLED FOR 150 YEARS.

Official price list can be obtained on request from any Artists Colourman, Drawing Office Stationer or Paper Merchant in the United Kingdom.

Double Elephant	40" x 26¾"	133 lbs	480's	1/8d. per sheet nett.
Imperial	30½" x 22½"	72 lbs.	480's	11d. " " "
Royal	24" x 19"	44 lbs.	480's	6½d. " " "

THESE ARE ONLY A FEW OF THE MOST POPULAR OF THE 75 VARIETIES OF SIZE, SUBSTANCE & SURFACE.

LOOK FOR THE WATERMARK IN EVERY SHEET, THUS:

J. WHATMAN

In case of any difficulty in obtaining supplies or particulars: write the Sole Mill Representatives:-

H. REEVE ANGEL & Co. 9, BRIDEWELL PLACE, E.C.4.
TELEPHONE: CITY 7414 (3 LINES) TELEGRAMS: PAPERMEN, LONDON.

UNITED STONE FIRMS,

QUARRY OWNERS, STONE MERCHANTS, MASONRY CONTRACTORS.

Head Office : 2, BRISTOL CHAMBERS, NICHOLAS STREET. BRISTOL. Telephone: 3910 BRISTOL (2 lines).

London Office & Works : STEWART'S ROAD (M.R. DEPOT), BATTERSEA. Telephone: 2037 BRIXTON.

Contracts executed or in hand.	Architects.
York House, Kingsway.	Trehearne & Norman.
Green Arbour House, Old Bailey.	Yetts, Sturdy & Usher, FF.R.I.B.A.
Berners House, Berners Street.	J. Slater & Keith, F. & A.R.I.B.A.
Walmar House, Regent Street.	C. F. Armstrong.
New Cold Storage, Victoria & Albert Docks.	Chief Architect, Port of London Authority.
Alexandra House, Kingsway.	Trehearne & Norman.
Mausoleum, Golders Green.	Sir E. L. Lutyens, A.R.A.
Charterhouse Telephone Exchange, Islington.	H.M. Office of Works.
Metropolitan Water Board, New Offices.	H. Austin Hall, F.R.I.B.A.
Glaxo Factory, nr. Portland Pl.	C. F. Armstrong.
Princes House, Kingsway.	Trehearne & Norman.
Connaught House, Aldwych.	Trehearne & Norman.
35, Harley Street, Queen Anne Street.	William & Edward Hunt, F.R.I.B.A.
London House Extension, Hart Street, E.C.	C. J. Smithem, F.R.I.B.A.
Adelaide House London Bridge.	Sir John Burnet R.S.A.

Portland, Forest of Dean, Blue Pennant, Beer, Bath, and Nailsworth Stones. Cornish Granite.

Estimates given for all kinds of Stone—Dressed, Fixed, and Cleaned Down.

Ask the Man who has One
what he thinks of his
"Anti-Hydro" Floor

BUILDERS AND CONTRACTORS to H.M. GOVERNMENT and the FRENCH REPUBLIC.

MANAGING DIRECTOR
W. G. TARRANT.

DIRECTORS.
F. E. POWELL, U.S.A. R. O. GARRARD.
J. HAMILTON. J. B. MACAFEE, U.S.A.
A. J. IVORY. N. PIESSE.

TELEPHONE: BYFLEET 1, 2 & 3.
TELEGRAMS: TARRANT, BYFLEET.

CHIEF OFFICE IN FRANCE
ROUTE DE GUINES, CALAIS
TELEPHONE: CALAIS 174.
TELEGRAMMES: "TARRANT-CALAIS."

W. G. TARRANT LIMITED,
BYFLEET,
SURREY.

Your Ref. FC/AH
Our Ref. 12/WGT/AH

30th Octr., 1920.

Frederic Coleman Esq.,
The Adamite Company Limited,
Regent House,
Regent Street, W. 1.

Dear Mr Coleman,

I am pleased to reply to your enquiry. Yes, your Anti-Hydro is living up to the high claims you make for it.

We were recently instructed to make water-tight the walls and floor of a boiler house cellar. This was three to four feet below water level and the walls of same constructed of two 4½" walls with asphalte between same. One would have expected this to have been a watertight job, but it was so subject to leakage that it was quite unusable.

We broke a hole through the bottom of the cellar and sunk a pump hole immediately outside the building and kept this hole pumped while we applied two Anti-Hydro renderings on the inside of the cellar. After two days' setting we ceased pumping, and we are pleased to say the result is perfect, as the inside of the cellar is now dust dry.

We consider this a very severe test. It is a great relief to feel we have something reliable for these waterproofing jobs, and we shall certainly always use your Anti-Hydro for similar work in future.

Yours faithfully,
W. G. Tarrant,
Managing Director

"ANTI-HYDRO"
FOR PERMANENT CONCRETE
HARDENS WATERPROOFS

The Adamite Company Ltd.

Regent House, Regent Street (near Oxford Circus) London W1.

EXPANDED METAL

STOCKTON STREET CINEMA, WEST HARTLEPOOL.
Reinforced Concrete Throughout.
Architect. Mr. J. Forbes, L.R.I.B.A. Middlesbrough.

THE

EXPANDED METAL COMPANY, LIMITED

Head Office:

YORK MANSION, Petty France, WESTMINSTER, London, S.W.1

(To which address enquiries should be sent.)

Works:

STRANTON WORKS, WEST HARTLEPOOL.

(To which address orders should be sent.)

SPECIALITIES.

Expanded Steel Sheet Reinforcement for Concrete.

"Exmet" Reinforcement for Brickwork.

Expanded Metal Lathings for Plasterwork.

Steel Wall-ties with split ends.

POSTAL & TELEGRAPH DEPT., BORDESLEY GREEN,
for H.M. Office of Works.
Saw Tooth Roofing of Pre-Cast Expanded-Steel Concrete Slabs.

HASWELL CO-OPERATIVE SOCIETY, WHEATLEY HILL, CO. DURHAM.
Reinforced Concrete Throughout; Front faced with Artificial Stone.
Architect Mr. J. Wilson Hays, Wingate, Durham.

Patentees & Manufacturers of EXPANDED METAL.

Engineers for
FIRE-RESISTING CONSTRUCTION,
STRUCTURAL STEELWORK,
And all forms of
REINFORCED CONCRETE WORK.

Write for
DESIGNS, ESTIMATES,
SAMPLES, PRICES, ETC.

CALLENDER'S DAMPCOURSES.

"Ledkore" (LEAD AND BITUMEN)

A Dampcourse with a Lead Basis.

"LEDKORE"

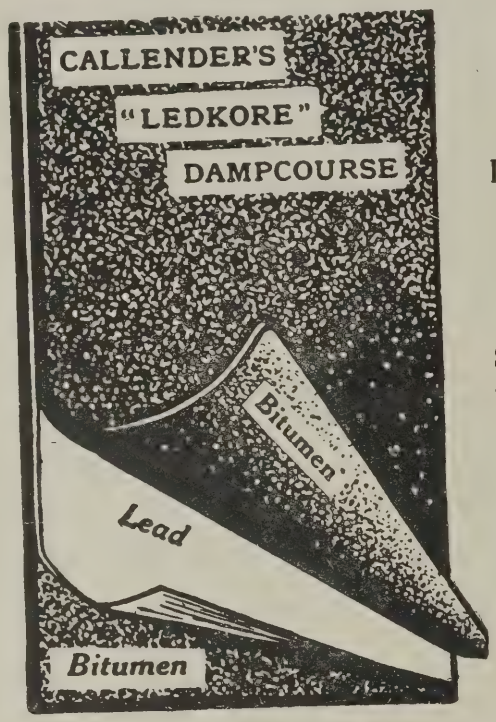
CONTAINS NO COAL TAR OR PITCH.

* *

IS UNAFFECTED BY EXTREMES OF TEMPERATURE.

* *

ELASTIC, INDEFECTIBLE.



"LEDKORE"

is

ABSOLUTELY IMPERVIOUS AND PERMANENT.

* *

Sent out in Rolls, 24 ft. long, all usual wall widths, 4½ in. to 36 in.

* *

IN THREE DIFFERENT GRADES according to thickness of lead used.

From **8d.** per foot super.

Composed of Successive Layers of Densely-Compressed Material of Pure Bitumen built round a Core of Sheet Lead.

ARCHITECTS WHO FAVOUR A DAMPCOURSE WITH A LEAD BASIS SHOULD SPECIFY LEDKORE.

Specified and Used in some of the Largest Housing Schemes—Chepstow, Winchester, Roehampton, Norbury, Dagenham, Tottenham, etc.

Send for Sample and Booklet 48 to

GEORGE M. CALLENDER & CO., LTD.,

25 VICTORIA STREET, WESTMINSTER, LONDON, S.W. 1.

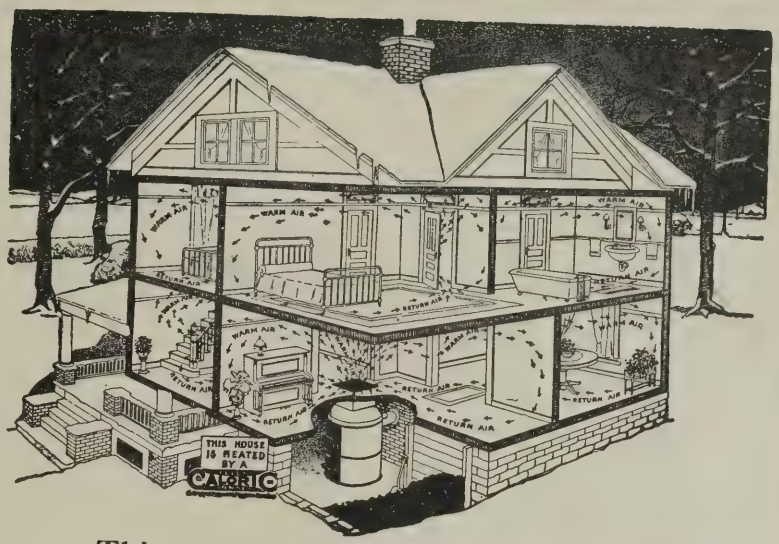
Telegrams: "QUARRIABLE, LONDON."

Telephone: 4642 VICTORIA.

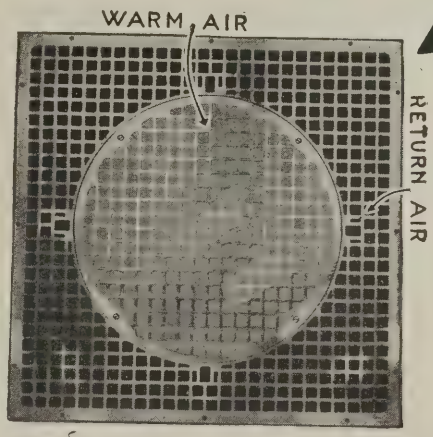
CENTRAL HEATING WITHOUT PIPES

The WHOLE house kept at an EVEN temperature of 65° in the coldest weather.

THE CALORIC SYSTEM OF CENTRAL HEATING.



This one coppered grating is the only thing to be seen in the house.



The Principle of Caloric Pipeless Heating

The Caloric system of operation is very simple, and is based on the natural law that warm air rises and cold air falls.

In the same volume that the warm air from the furnace enters the house an equal amount of cold air is drawn into the furnace, where it is in its turn heated, moistened by the vapour from the humidifier, and then recirculated through the grating throughout the house. This continues as long as the fire burns.

IMMEDIATE DELIVERY.

WARM AIR

RETURN AIR

PIPELESS CALORIC FURNACE

THE ORIGINAL PATENTED PIPELESS FURNACE

1. Keeps an even temperature of circulated warm air through the whole house.
2. Requires no pipes.
3. Keeps dirt and dust of fuel and ashes out of the house.
4. Saves labour.
5. Keeps air at proper humidity for health.
6. Is economical, no heat lost by radiation; burns any kind of fuel.
7. Can be installed in old buildings without any alteration; if specified for new buildings a great reduction in prime cost shown.
8. Can be installed by two men in two to three days; no mess; no annoyance.
9. Low cost.

IMMEDIATE DELIVERY.

RETURN AIR

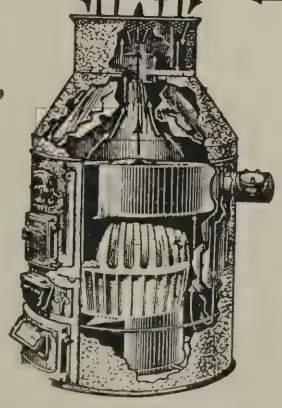
The following sizes are held in stock in London, from which immediate delivery can be made:—

Size.	Heating capacity in cubic feet for average building.	B.T.U.'s per hour.
No. 40	10,000	48,000
No. 43	22,000	58,000
No. 48	35,000	82,000
No. 59	55,000	110,000

110,000 Caloric systems are installed and working.

Private Houses, Workshops, Halls.

HEATS ONE TO TWENTY-TWO ROOMS.



Bungalows, Churches, Shops.

AN EVEN TEMPERATURE ABSOLUTELY GUARANTEED.

Architects are cordially invited to see the system in operation in England.

WRITE FOR PARTICULARS TO

THE MONITOR HEATING CO.

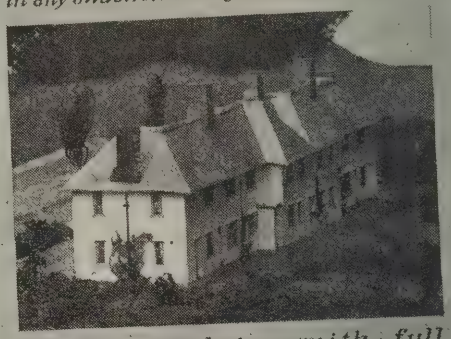
OF GT. BRITAIN.

9, Victoria St., Westminster, London, S.W.1.

Telephone: Victoria 4661.
Telegrams: "Umonfitom, Vic, London."

HOPES' COTTAGE WINDOWS.

The most practical & pleasant window in any situation. Low first cost: no repairs.



Complete catalogue with full particulars of stock sizes & details of construction will be forwarded on application. This contains 15 designs of cottages by eminent Architects & illustrates the application of HOPES' Standard Cottage Windows to a large variety of material.

Apply SMETHWICK BIRMINGHAM *or* 59 BERNERS ST. LONDON.

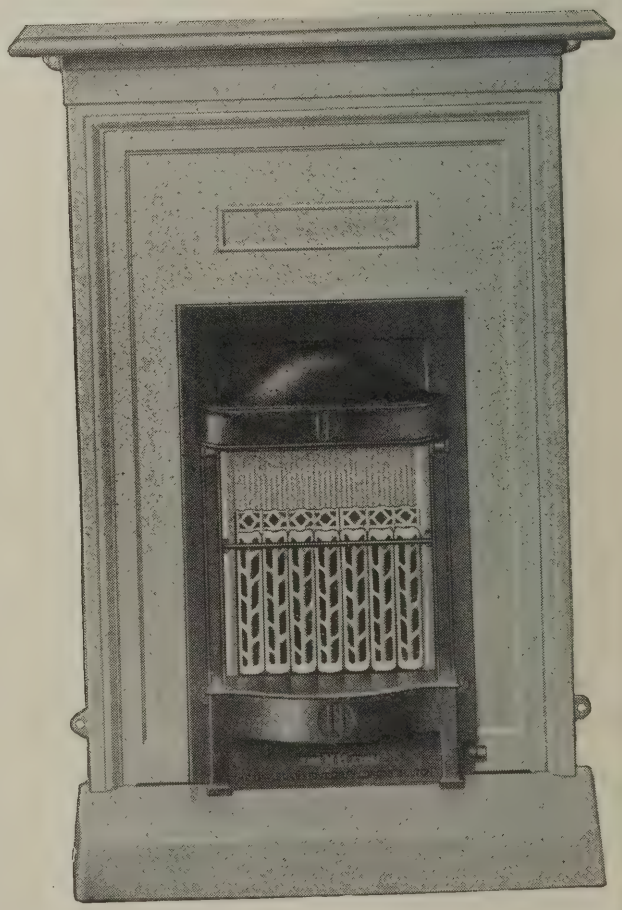
NATIONAL HOUSING

The Davis **"N.H." Gas Mantel Register**
(fitted with High-grade Gas Fire)

With or without Air Regulator for use with Nautilus "AUTO-VENT" Concrete gas flues, by means of which coal fire flues and chimney breasts can be entirely dispensed with.

Write for descriptive Folder No. 71.

The Davis Gas Stove Co., Ltd.,
NAUTILUS SALONS,
60, Oxford Street, London, W.1.



JOHN BOOTH & SONS

STRUCTURAL ENGINEERS, BOLTON.

12-Storey Mill and Warehouse, Liverpool. Weight of Steelwork 5,500 tons.

Architect - JOHN COLLINS, Esq., Liverpool.

"BASECO" PATENT BOILER.

The finest Boiler made for the continuous supply of Hot Water also for Hot Water Heating with Radiators.

ABSOLUTELY UNEQUALLED FOR EFFICIENCY AND ECONOMY OF FUEL CONSUMPTION.

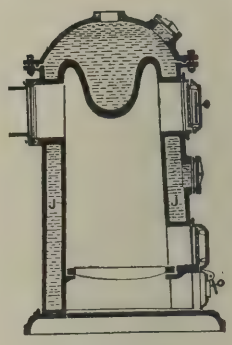
Burns Coal, Coke or Anthracite, and is a useful and hygienic means for disposing of Household Refuse.

British Invention and Manufacture. Prompt Delivery.

THROUGH ALL ENGINEERS AND MERCHANTS.

Patentees: **O. BRUSTER & DE LAUNOIT,** 4 Lloyd's Avenue, LONDON, E.C. 3

Succrs. to H. C. ROBOTTOM & CO.



Section showing Water Pocket.

SYLVADURE WOOD PRESERVER

SPECIFIED BY
THE GLASGOW CORPORATION
FOR THEIR HOUSING SCHEME, 1920-1921.

NEW BUILDINGS—
"SYLVADURE" renders the wood permanently proof against Dry Rot.

OLD BUILDINGS—
"SYLVADURE" exterminates existing Dry Rot and prevents its recurrence.

Used by the Admiralty and War Office.

Wm. MACLEAN SONS & CO., BROAD ST. HOUSE, LONDON, E.C.

ETERNIT

Roofing Tiles
Corrugated Sheets
Flat Sheets
(Approved by the Ministry of Health)

The Original Asbestos Cement Tiles
Standard of Quality

Immediate Delivery

on all H. M. Government Lists

G. R. SPEAKER & COMPANY

29 MINCING LANE LONDON E.C. 3.

TRELLIT WORKS STEVENAGE ROAD FULHAM S.W. 6.

TELEPHONES
AVENUE 6546
PUTNEY 1839

TELEGRAMS
ETERNITILE LONDON
TRELLERNIT FUL LONDON

WAYGOOD-OTIS Ltd

BY APPOINTMENT TO H.M. THE KING.

LIFTS

Have been fitted in the following Buildings
(as detailed particulars in Editorial pages)

NEW LONDON SESSIONS HOUSE
PACIFIC STEAM NAVIGATION OFFICES, LIVERPOOL
METROPOLITAN WATER BOARD, LONDON
BERNERS HOUSE, BERNERS STREET
MESSRS. DICKINS & JONES, REGENT STREET

ALSO BEING INSTALLED AT

MESSRS. HARRODS LTD., LONDON & MANCHESTER
SELFRIDGES NEW EXTENSIONS—
LONDON, LIVERPOOL, LEEDS, Etc.

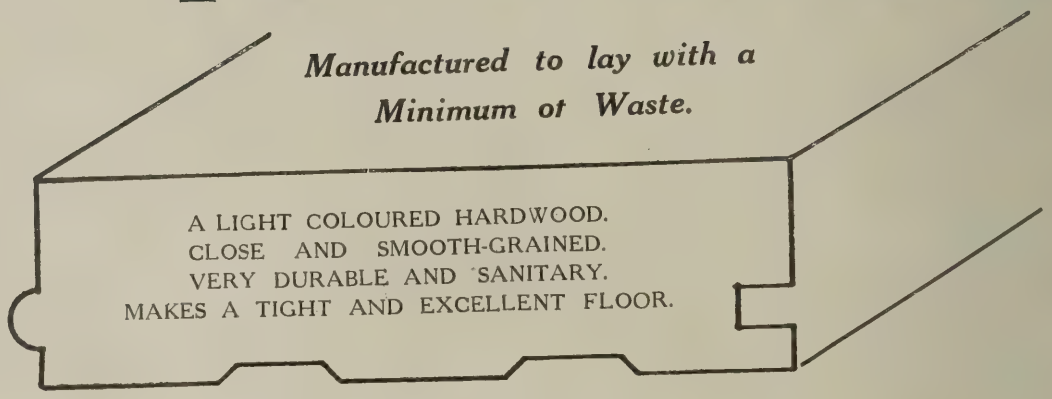
HAND LIFTS *of Standard Design and Sizes can now be supplied from Stock.*

54 & 55, FETTER LANE, LONDON, E.C.4.
62 & 63, LIONEL STREET, BIRMINGHAM

AND THROUGHOUT ALL THE PRINCIPAL CITIES OF THE WORLD.

MAPLE FLOORING

Manufactured to lay with a Minimum of Waste.



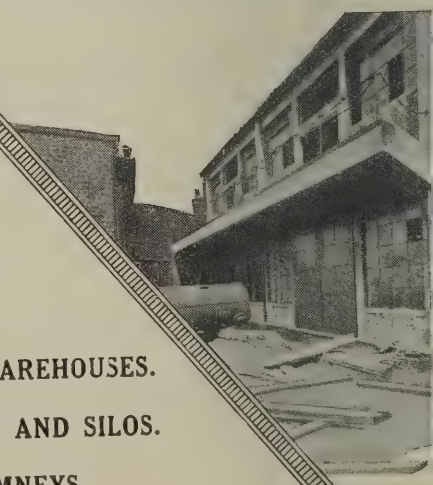
FOR PRICES AND PARTICULARS APPLY:—

R. G. TICKLE & SON, LIMITED,

General Timber Merchants,

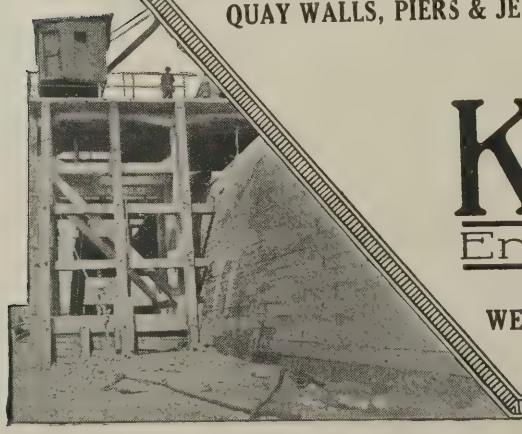
BLACKSTOCK STREET, LIVERPOOL.

FERRO-CONCRETE SPECIALISTS



Enquiries are invited for the following Structures:

CONCRETE PILES AND FOUNDATIONS.
RETAINING WALLS.
BRIDGES AND CULVERTS.
QUAY WALLS, PIERS & JETTIES, Etc.
FACTORIES & WAREHOUSES.
COAL BUNKERS AND SILOS.
CONCRETE CHIMNEYS.
WATER AND COOLING TOWERS, Etc.



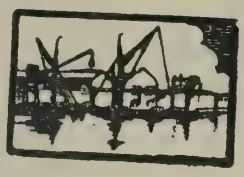
K. HOLST & Co.

Engineers & Contractors

WESTMINSTER CHAMBERS, 1, VICTORIA ST., LONDON, S.W.1.

Telephone: VICTORIA 4234. Telegrams: FERROLST, VIC., LONDON.

No. 54.



BUILDING MATERIALS

We shall be glad if you will send us your enquiries, and would ask you to put our name on your buyers' list for materials used in building construction.

Cement, Limes, Bricks, Partition Blocks, Tiles, Slates, Chimney Pots, Sanitary Ware of all kinds, Pipes, Gullies, Interceptors, Fire Bricks, Fire Clays, Fire Cements and Refractories of every description. Acid-Resisting Goods, and Acid Cements, also "Fiberlic" the root Fibre Board, Asbestos Sheets and Tiles. "Sank" brand Paints and Distempers.

¶ We deliver by our own lorries 50 miles round London, and by vessel or truck to any Port or Station in the United Kingdom.

ESTABLISHED 1857.

J. H. SANKEY & SON, LTD

Telephone East 1061.

HEAD OFFICE: **Essex Wharf, Canning Town, London, E.16.**

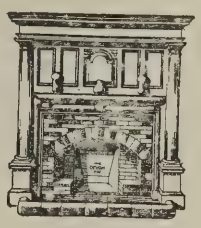
CENTRAL HEATING,
HOT WATER SUPPLY, COOKING PLANT,
AND
MECHANICAL VENTILATION

DESIGNED & INSTALLED BY

BARRETT & WRIGHT, LTD.,
ENGINEERS,
19 BARTHOLOMEW CLOSE,
LONDON, E.C.1.

Telephone CITY 8692

ESTIMATES, SCHEMES, ADVICE.



THE HOUSING SCHEME

is a serious matter, and the Ideal Home can only be obtained by installing "DEVON" FIRES throughout.

"DEVON" FIRES will help to solve the servant trouble, no polishing or blackleading.

"DEVON" FIRES are real economisers in coal and labour.

"DEVON" FIRES are perfect in combustion, style, and decorative treatment.

Illustrated Price List sent free on application.

Manufacturers of all kinds of Tiles and Faience for Hearths and Fireplaces. Glazed Tiles for Shopfronts a Specialty.

CANDY & CO., LTD.,

87, NEWMAN ST., OXFORD ST., W.1

Works: Heathfield, Newton Abbot, Devon.

Agents in Norwich, Sheffield, Edinboro', Glasgow, Belfast, and Dublin.

Kinnell's

CENTRAL HEATING

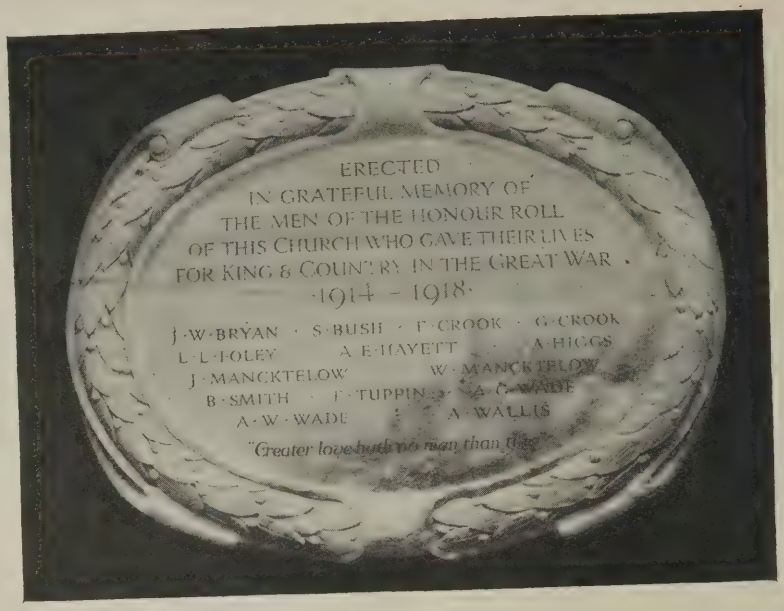
AND HOT WATER SUPPLY

Some work in hand or recently completed:

Montrose House, Petersham.
Eaglescarnie, Gifford Haddington.
Easton Hall, Thetford.
Provence Hotel, Leicester Square, W.
Theatre Royal, Leamington Spa.
Elite Picture Palace, Wimbledon.
Commercial Union Assurance Co., Ltd., New Bridge Street, E.C.
Lloyds Bank, Folkestone.
Seamen's Convalescent Home, Limpsfield.
St. Michael's Church, Aldershot.
St. James' Church, Clapton.

CHAS. P. KINNELL & Co., Ltd.,
SOUTHWARK STREET, LONDON, S.E.1

Memorial Tablet in Alabaster



Designed and executed by Mr. A. T. Bradford

E. J. & A. T. BRADFORD

SCULPTORS :: MODELLERS :: CRAFTSMEN

62A BOROUGH ROAD, LONDON, S.E.1

Telephone 2384 HOP

MEMORIALS IN WOOD, STONE, MARBLE, ALABASTER, BRONZE, ETC.

ARCHITECTURAL ENRICHTS IN FIBROUS PLASTER, STUC MODELLED AND CAST CEMENT WOOD AND STONE CARVING

KINNEAR PATENT STEEL ROLLING SHUTTERS

for

Tramcar and Omnibus Depots
Generating Stations
Boiler Houses, Harbour Warehouses
Core Ovens, Garages, and
Entrances Generally.

ON ADMIRALTY, WAR OFFICE, AND OTHER LISTS.

ARTHUR L. GIBSON, *Sole Manufacturer*,
Radnor Works, Strawberry Vale, TWICKENHAM.

GLASGOW: 121, West George St. MANCHESTER: 90, Deansgate.

LARGE STOCKS

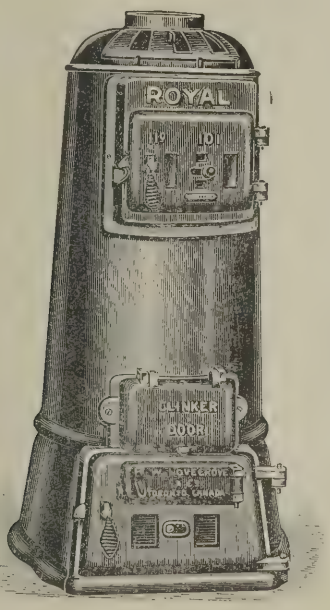
— *of* —

Radiators & Boilers

FOR HOT WATER AND STEAM

PROMPT ATTENTION GIVEN TO LARGE OR SMALL CONTRACTS

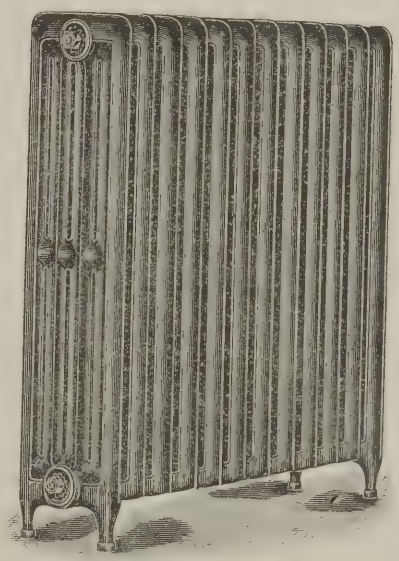
The "Grove" Domestic Boiler ensures
:: Efficient Hot Water Supply ::



ROYAL, ROUND, OR SQUARE SECTIONAL BOILERS.

IMPERIAL RADIATORS

Made in 1 column width $4\frac{3}{4}$ ins.
" 2 " " $7\frac{1}{4}$ "
" 3 " " 9 "
" 4 " " 11 "
" 5 " " 13 "
Window Radiator 14 ins. high.



May we send you our catalogue and stock lists?

R. W. LOVEGROVE & CO.,

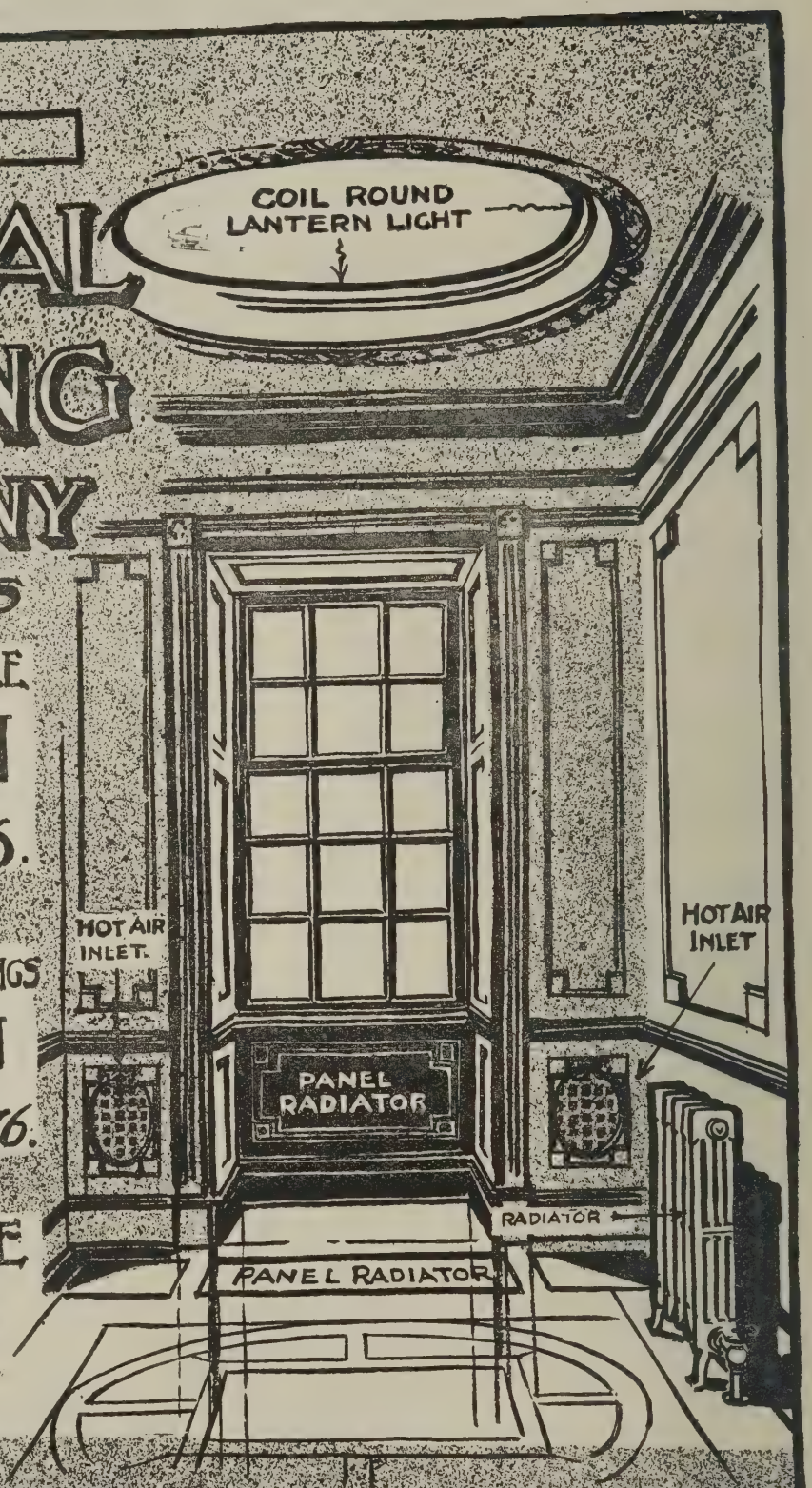
12 ROCHESTER ROW — WESTMINSTER, S.W.1

Stores and Factory: Railway Works, Queen's Road Station, Peckham, S.E.

Cable and Telegrams: "EVORGEVOL, LONDON."

Telephone: Victoria 7131

THE CENTRAL HEATING COMPANY
ENGINEERS
26 DENMAN ST. S.E.
LONDON
-PHONE-
HOP 2206.
RICHMOND BUILDINGS
BRIGHTON
-PHONE-
POST OFFICE 476.
2 MARK LANE
LEEDS
-PHONE-
26965.



WARM AIR, HOT WATER & STEAM INSTALLATIONS
CALCULATIONS BASED ON ACCEPTED SCIENTIFIC FORMULÆ
ERECTED & TESTED BY SKILLED MECHANICS
G. R. STICKLEY Proprietor

The Art of E. A. Rickards

With a personal sketch by

MR. ARNOLD BENNETT

This volume comprises a representative selection of the work of the late E. A. Rickards. It presents as worthily as the best reproduction will allow, both in monochrome and colour, a large number of the finest Architectural Drawings, Designs, Illustrations, Caricatures, and Sketches executed by one who was perhaps the foremost architectural draughtsman of his day.

To his brother architects the value of Rickards's work is enhanced by the breadth of his artistic experience, and the volume is full of suggestive material.

In addition to the personal sketch by Mr. Arnold Bennett, Mr. H. V. Lanchester, F.R.I.B.A., and Mr. Amor Fenn have dealt with other views of his work and life.

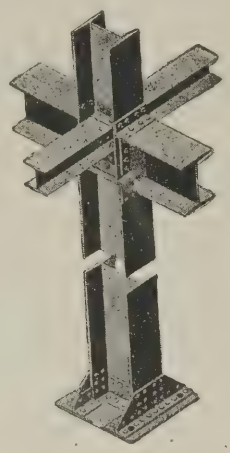
Price £3 : 3 : 0 net.

TECHNICAL JOURNALS, LTD.,

27-29, Tothill Street, Westminster, S.W.1

BROAD FLANGE BEAMS
(GREY PROCESS)

Used by leading Architects and Engineers all over the World.



Broad Flange Beams (Grey Process) are solid rolled steel girders with wide flanges, ranging in size from $5\frac{1}{2}'' \times 5\frac{1}{2}''$ to $40'' \times 12''$.

Architects and Engineers are invited to apply for a free copy of Handbook No. 17 for full particulars of Broad Flange Beams (Grey Process).

To avoid risk of receiving inferior imitations it is essential to specify :—"BROAD FLANGE BEAMS (Grey Process)."

R. A. SKELTON & CO.,

Contractors to H.M. Government, etc.

Moorgate Station Chambers, Moorfields, London, E.C.2

Telephone: London Wall 4635. Telegrams: Skeltonica, Phone, London.

COPE & TIMMINS
(London) 1911 LTD.

15 & 16, Alfred Place, London, W.C.1.

Telegrams:—"TENSO," LONDON. Telephone:—694 & 695 MUSEUM

ARCHITECTURAL METAL WORK.

Architects' and Builders' IRONMONGERY & BRASSFOUNDRY.

NEW CATALOGUE NOW READY.

CAN BE SENT ON APPLICATION.

Architects' own designs carefully carried out.

THE ARGUS PRINTING Co. LTD. 10, TEMPLE AVENUE

The Mark of Good Taste and Quality

THE ARGUS PRINTING Co. LTD. 10, TEMPLE AVENUE

THE · ARGUS PRINTING COMPANY · LIMITED
10, TEMPLE AVENUE, E.C

A. ROWLAND HARRIS, Manager.

WE are experts in designing and executing Booklets, Illustrated Catalogues, Price Lists, etc., and other

HIGH-CLASS PRINTING

ESTIMATES FREE ON APPLICATION

HALF-TONE & THREE-COLOUR WORK A SPECIALTY

Telephones: 11 HOLBORN. 9438 CENTRAL.

THE ARGUS PRINTING Co. LTD. 10, TEMPLE AVENUE, E.C.

Telegrams: 'GIGANTEAN LONDON.'

BILLS OF QUANTITIES &c.
ELECTROGRAPHED (the cheapest process)
LITHOGRAPHED or LITHO-TYPED
HIGHEST STANDARD OF WORK ONLY
PHOTO COPIES, PLANS & TRACINGS
ARTISTIC & COLOUR PRINTING
OLDACRES & Co. (& Wm. HARDAKER (Established 1880),
Architectural Printers Head Office 44, BEDFORD ROW, W.C.1
Telephone: No. 6863 Holborn.

FOR EVERY KIND OF PHOTOGRAPHY
SEND TO
LANGFIER,
(Commercial Department)
343, FINCHLEY ROAD, HAMPSTEAD, N.W. 3.
Phone: 1250 HAMPSTEAD.

A Complete Catalogue of Standard Architectural Works published by TECHNICAL JOURNALS, LTD., 27-29, Tothill Street, S.W.1, will be forwarded post free on application.

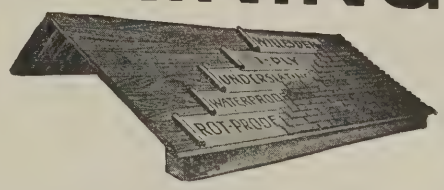
KINNEAR
PATENT STEEL ROLLING
SHUTTERS
for
Car and Bus Depots, Generating Stations, Boiler Houses, Harbour Warehouses Core Ovens, Garages, and Entrances Generally
On Admiralty, War Office and other Lists.
ARTHUR L. GIBSON
Radnor Works, TWICKENHAM
GLASGOW: 121 West George St.
MANCHESTER: 90 Deansgate.

WM. OLIVER & SONS LTD.
Thoroughly Seasoned Wainscot,
Mahogany, Walnut, Teak, and other Hardwoods, in all Thicknesses.
ENGLISH TIMBER.
Seasoned Quartered Oak, Oak Butts Aeroplane Ash, Walnut, &c.
Office: 120, BUNHILL ROW, LONDON, E.C.1

"Easiwork"
LABOUR-SAVING DRESSERS
SUPPLIED READY CUT TO THE BUILDING TRADE.
Write to-day for illustrations and prices.
G. E. W. CROWE, 83, Pall Mall, London, S.W.1

SAJAN & CO
FORT, BOMBAY.
ROOFING
WHITE GLAZED
FLOORING
MARBLE
TILES
Suppliers to Government Public Works Department & Native States.
Tel. Add. SAJAN CO. BOMBAY.

WILLESDEN UNDERLINING PAPER



LINING IRON BUILDINGS TO PREVENT DRIP.
NO SMELL. PERMANENT.
Placed under Floor Boards Excludes Damp and Deadens Sound. Also for Damp Walls.
WILLESDEN PAPER & CANVAS WORKS, Ltd., Willesden Junction, London, N.W.10.
Telephone No.: 1165 Willesden. ESTABLISHED 1870. Telegrams: "Impermeable, Phone, London."

MILD STEEL ROUNDS FOR FERRO-CONCRETE ALL SIZES.
BARS
PROMPT DELIVERIES FROM STOCK
PLATES, SHEETS, ANGLES, JOISTS, TEES, FLATS, SQUARES, and Structural Steel of all kinds.
Send us your enquiries—**HELICAL BAR & ENGINEERING CO.,**
Dept. A—1, Victoria Street, WESTMINSTER, LONDON, S.W.1. Telephone: Victoria, 1940-1941.

ARCHITECTURAL REFERENCE LIBRARY.

The attention of Architects, and of those interested in Architecture, is called to the facilities afforded by the specially appointed Reading Room at 27-29, Tothill Street, Westminster.

This Room has been set apart in order that the numerous Works in the Library may be referred to in quietude and ease.

Overseas Members of the Profession, and also Architectural Students, are cordially invited to make the fullest use of the Library.

BOULTONS

Contractors for

TILING (Walls and Floor)
MARBLEWORK
MOSAICS
GRANITE, Etc.

INQUIRIES INVITED.

JOHN BOULTON & CO., Ltd.,
13, Eastcastle Street, OXFORD STREET, LONDON, W.1.
Telephone: MUSEUM 2350.

"BOULITHIC"

MAGNESITE
JOINTLESS FLOORING
IN VARIOUS COLOURS.
LAID ON WOOD OR CONCRETE.

JOHN BOULTON & CO., Ltd.,
13, Eastcastle Street, OXFORD STREET, LONDON, W.1.
Telephone: MUSEUM 2350.

STAINED GLASS
LEADED GLAZING
METAL CASEMENTS

Designs and Estimates Submitted.

JOHN HALL & SONS
(Bristol and London), Ltd.,
ESTABLISHED 1788.
173 & 175, Pancras Road, LONDON, N.W.,
and Broadmead, BRISTOL.

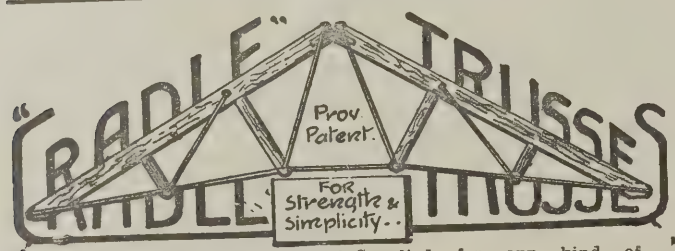
DOORS

H.B. BRAND

H. BROWN, Ltd.,
Door Importers,
41, CASTLE STREET,
LIVERPOOL.

Please send us your Enquiries.

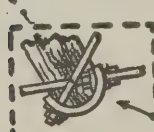
Telephone: Bank 4058 Liverpool.
Telegrams: "GUMWOOD" Liverpool.
Cables: "BROWLUM" Liverpool.



The "CRADLE" TRUSS is a new type of combined steel and timber ROOF Principal; it is scientifically designed and standardised for MASS PRODUCTION.

Supplied for any kind of Roofing. Spans from 20' to 60'. Complete or Steelwork only. When enquiring, please state kind of Roof covering and distance apart of trusses.

JAMES WILD & CO., Engineers,
J. Dept., 49, DEANSGATE, MANCHESTER. Phones; City 2225.
And Ashley Road, Hale, Altrincham. Altrincham 891.



The Cradle Joint

"HEMPSTEAD" HOLLOW PARTITION BLOCKS AND FLOOR BLOCKS

IMMEDIATE DELIVERY OF STOCK SIZES.
FLOOR BLOCKS to suit Patentees' Requirements.

Address Enquiries:
THE HEMEL HEMPSTEAD PATENT BRICK CO., LTD.,
326, GRAY'S INN ROAD, LONDON, W.C.1.
Telephone: HOLBORN 2103. Telegrams: "LUGGDOM," LONDON.

ARCHITECTS AND SURVEYORS

BILLS OF QUANTITIES AND SPECIFICATIONS

Lithographed or Typewritten and Carbon Copies. — Immediate attention. — No waiting.

ESTATE PLANS AND DRAWINGS, Copied, Reduced or Enlarged.

PHOTO PRINTS OF DRAWINGS a Speciality. True to Scale (Black on White) Prints, Blue Prints.

CHARLES & READ, Ltd., Architect's Typists, Draughtsmen, Lithographers, Printers, Process Engravers, Line, Half Tone, Colour Work.
Telephone: Holborn 153 & 6387 LONSDALE CHAMBERS, 27, CHANCERY LANE, LONDON, W.C.2

CRANE

1855— —1920

World Wide

Pipe Line Requisites

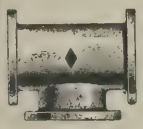
for

Heating Installations
Hospitals and Hostels
Housing Schemes

Power Plants
Public Buildings
Private Residences

Doubt as to the Efficiency of the Fittings that will enter into the Pipe Line Installation is the most disturbing element to the constructive mind of the Architect or Engineer. Eliminate the fear of failure. **CRANE** Valves and Fittings have an established reputation for Reliability; every Fitting bears the **CRANE** trade mark which has become a guarantee with British Engineers, the men whose expert knowledge demands a reliable product of permanent quality.

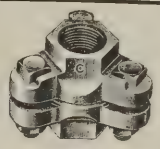
"Everything for any Pipe Line."



CRANE-BENNETT Ltd.

Distributors of Sanitary Fixtures and Materials.

45-51 LEMAN STREET, LONDON, E.1



CUIRASS LIQUID PROOFING

Waterproofs

LEAKY ROOFS

Asphalt, Zinc Flats, Concrete, Damp Walls, Felts. Apply cold with brush

Cuirass

Products, Ltd.,
69, Victoria Street,
London, S.W.1

Telephone: Vic. 5419.

CUIRASS PAINT

Covers 3 times the surface of Oxide Paints; lasts longer, costs less.

EST. 1851 PHONE 67 BRIGHOUSE

J. C. BOTTOMLEY & EMERSON, Ltd.

Brookfoot Works, Brighouse, Yorks.

Manufacturers of

High-Class Decorators' Colours.

"Walldeco" (*Registered*)
The best Paint for Concrete.

"Bituvar" (*Registered*)
THE Preservative for Ironwork in all Climates.

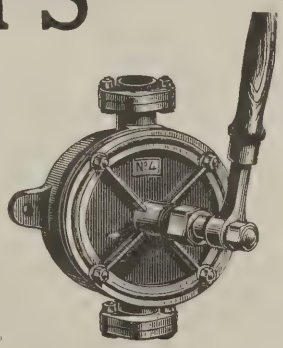
"Bituvar" (*Registered*)
Wood Preservative
Has stood the Test of years.

Willcox's

SEMI-ROTARY WING

PUMPS

For House and Estate Water Supply, and general lifting and forcing. Double or quadruple action. Mounted or unmounted.



"PENBERTHY"
AUTOMATIC
CELLAR DRAINERS

For elimination of flooding troubles in cellars and sumps, and maintaining levels in tanks, settling basins, pits, &c. Automatic. Works by ordinary mains or low steam pressure

Let us quote for your requirements.

W. H. WILLCOX & CO., LTD.,
32-38, SOUTHWARK STREET, LONDON, S.E.1.

CONTENTS.

Edited by PROFESSOR A. E. RICHARDSON, F.R.I.B.A.

LEADING ARTICLE: The Old Year and the New ... 701

NOTES AND COMMENTS: St. Paul's Bridge and Charing Cross; The London Guild of Builders; Government and the Builders; Southwark Bridge; The Art of Medal Making ... 702

Summary of the Chief Events of the Year ... 703

Architectural Causerie: The Eighteenth Century in London. By Aero ... 707

The L.C.C. Housing Estate at Becontree ... 708

The Servantless Bungalow as I Would Have It. By An Undomesticated Woman ... 714

The Design, Planning, and Construction of Bungalows. By Kenneth M. B. Cross, B.A. (Cantab) ... 715

Notes on Bungalows: Byfleet, 721; Tor Royal, Devon, 722; New Earswick, The Joseph Rowntree Village Trust, 723; Other Bungalows ... 724

The Design, Planning, Construction, and Equipment of Cinematograph Theatres. By W. Stanley Blount ... 731

Notes on Cinema Theatres: Liverpool; Edinburgh, 741; Morley and Ossett; Cardiff, 746; Doncaster, 755; Southampton; Birmingham ... 757

Special Methods of Cottage Construction: A Review of the Year's Work. By A Housing Expert ... 760

Ministry of Health's Investigations ... 763

Some Important Buildings of the Year: Messrs. Dickins and Jones's New Premises; Marylebone Town Hall, 764; Metropolitan Water Board Offices, 767; Faculty of Arts Building, Manchester, 770; Pacific Steam Navigation Co.'s Offices, Liverpool; New Memorial Chapel at Marylebone; Berner's House ... 778

Complete List of London District Surveyors ... 781

Building Grants to Private Persons ... 782

Queensland Timber and Housing Problem ... 783

Complete List of Contracts Open ... viii

Current Prices of Materials ... lxxiii

ILLUSTRATIONS:

James Stuart, F.R.S., F.S.A. ... 699

Current Architecture, 53—Marylebone Town Hall, London. Principal Elevation. T. Edwin Cooper, F.R.I.B.A., architect ... 700

Modern American Architecture 12—Minnesota State Capitol, St. Paul, Minnesota. Cass Gilbert, architect ... 705

L.C.C. Housing Scheme at Becontree. G. Topham Forrest, F.R.I.B.A., F.G.S., architect ... 708, 713

Bungalows: By A. W. S. Cross, M.A., F.R.I.B.A., and Kenneth M. B. Cross, B.A., 716-721; Richardson and Gill, FF.R.I.B.A., 723; Barry Parker, F.R.I.B.A., 724-725; L. Sylvester Sullivan, A.R.I.B.A., 726-728; John C. Proctor, A.R.I.B.A., 729; Teather and Wilson, FF.R.I.B.A. ... 730

Cinema Theatres: By W. Stanley Blount, 732-733; George L. Alexander, A.R.I.B.A., and Matthew Watson, Landless and Pearse, 735-739; Atkinson and Alexander, 741-745; W. P. Schofield, A.R.I.B.A., and Allison B. Berry, 746-751; Willmott and Smith, 748-749; Ivor Jones and Percy Thomas, AA.R.I.B.A., 752-755; E. H. Walker, A.R.I.B.A., 756; Frank Matcham and Co., 757-758; G. W. Rushton, 757; Horace G. Bradley ... 759

Special Methods of Cottage Construction: "L"-Shaped Cavity Block, 760; "Duo-Slab" Construction; The Fidler System of Concrete Block Construction, 761; Post-Pier System of Construction; Hollow Concrete Wall Construction, 762; Pre-Cast Reinforced Concrete Construction; "Bur-Pal" Standardised Wooden Frame Construction ... 763

Some Important Buildings of the Year: Messrs. Dickins and Jones's New Premises, Sir Henry Tanner, C.B., I.S.O., F.R.I.B.A., Henry Tanner, F.R.I.B.A., and E. J. Tanner, A.R.I.B.A., architects, 764-766; Marylebone Town Hall, T. Edwin Cooper, F.R.I.B.A., architect, 767-770; New Central Offices of Metropolitan Water Board, H. Austen Hall, F.R.I.B.A., architect, 771-773; Faculty of Arts Building, Manchester University, Thomas Worthington and Son, architects, 774-775; Pacific Steam Navigation Co.'s Offices, Liverpool, Willink and Thicknesse, FF.R.I.B.A., architects, 776-777; Memorial Chapel, Holy Trinity Church, Marylebone, Mervyn E. Macartney, B.A., F.S.A., F.R.I.B.A., architect, 778-779; Berner's House, London, John Slater and Keith, architects ... 780

DAWNAY DEFINITIONS—4.

SERVICE

SERVICE, as we offer it to you, means the closest attention to detail, rigid adherence to promised delivery dates, and all those things which when backed up by perfect material produce the perfect reason for you to send us your enquiries for constructional material.

STOCKS OF British Standard Sections in Joists, Channels, Angles, Tees, Flats, etc.

ARCHIBALD D. DAWNAY

AND SONS, Limited.

Telephones: Battersea, 1094 (3 lines).

Steelworks Road, Battersea, S.W.11

Telegrams: "Dawnay, Battsquare, London."

Telephone: Cardiff, 2557.

And at East Moors, Cardiff.

Telegrams: "Dawnay, Cardiff."

The Supreme Test for a roofing material

ON WOOD OR CONCRETE CONSTRUCTION

FOR ROOF TANKS

the material used must be impervious, durable, and elastic to a remarkable degree.

Vulcanite Roofing has been most successfully used in this capacity, and we can give instances where it has stood the test of twenty-five years' service without the slightest attention, a record which places it far ahead of anything used for such a purpose.

Passing such a test, it is easy to see that Vulcanite Roofing must be the ideal covering for flat roofs.

It is fire-resisting, it gives without fracture to vibration caused by heavy machinery, and remains unaffected by extreme weather conditions.

Always cheaper than asphalte, zinc, or lead, and particularly so at present.

Can we send you details and prices? The advice of our experts is always at your service.

PATENT VULCANITE ROOFING

VULCANITE · Ltd
118 · Cannon · Street
London · E · C · 4
and · Laganvale · Belfast

REGISTERED · TRADE · MARK · VULC ANITE

The

KLEINE Patent

Fire-Resisting Floors,

Roofs, etc.,

OF

Reinforced Hollow Bricks

Constructed with or without Centering.

Established 1905

THE KLEINE PATENT FIRE-RESISTING FLOORING SYNDICATE, LIMITED,

Offices: 133—136, High Holborn, London, W.C.1.

Telephone: 5328 Museum.

Printed for the Proprietors of "The Architects' Journal" (Technical Journals, Ltd.), 27-29, Tothill Street, Westminster, S.W.1, by The Argus Printing Co., Ltd., Temple Avenue and Tudor Street, London, E.C.4.
Yearly Subscription: at Home, £1 7s. 6d.; Canada, £1 10s. 0d.; Elsewhere Abroad, £1 12s. 6d.
Agents—Canada: The Toronto News Co., Ltd., The Montreal News Co. U.S.A.: The International News Co., Duane Street, New York, William Helburn, New York, J. H. Jansen, Cleveland, Ohio, G. Brobs van Dort Co., Chicago, J. Scudney, Boston. South Africa: The Central News Agency, Ltd., Cape Town. India: The Union Agency, Bombay, D. B. Taraporevala Sons & Co., Ltd., Bombay. Australia: E. S. Wigg & Co.

BOUND BY
HNM

UNIVERSITY OF ILLINOIS-URBANA
3 0112 074266047